Exploring Teachers' Use of Multiple Intelligences With Elementary-Aged Exceptional Students

Alice C. Hamstra, B.A.

Department of Graduate and Undergraduate
Studies in Education

Submitted in partial fulfillment
of the requirements for the degree of
Master of Education
Faculty of Education, Brock University
St. Catharines, Ontario

Abstract

The purpose of this qualitative study was to explore teachers' reflections on Multiple Intelligences theory and the processes they engage in when using the theory with elementary-aged exceptional students. Four public school teachers took part in the study. An introductory observation visit, semistructured in-depth interviews, field notes, and teachers' own written reflections served as data sources. Content-analysis was applied to review the data for themes related to the research topic.

The findings indicated several benefits of using Multiple Intelligences. This theory appeared to affect teachers' views of exceptional learners, directing the teachers' focus to the students' potentials. It also seemed to have value for assisting teachers in planning an inclusive approach, enhancing exceptional students' self-esteem, developing metacognition, and promoting cognitive engagement. Finally, the findings suggest that Multiple Intelligences has implications for teachers' professional development to reach a more diverse range of students.

Acknowledgements

I wish to express my appreciation to the three members of my thesis committee, Dr. Sheila Bennett, Dr. Susan Drake, and Dr. Jane Rubin for providing me with constructive feedback and ensuring that on my voyage of learning, I set course in the right direction. In particular, I wish to thank my thesis advisor, Dr. Susan Drake, for introducing me to Multiple Intelligences and facilitating my exploration in the territory of qualitative research.

Furthermore, I would like to especially thank my participants, Andrea, Bev, John, and Robin for sharing their expertise in the area of Multiple Intelligences and exceptional students, as well as for the time and effort they put forth in participating in this research.

There are various others to whom I wish to extend my thanks and appreciation. To my undergraduate professor, Dr. Gabriel Vitalone, who through the years has always encouraged and challenged me to continue my educational endeavours and make a difference in the lives of my students. To my friend, Christine Van Halen-Faber for sharing her graduate learning experiences with me, as well as for her kind support. To my parents, Rev. Gerald and Mrs. Theresa Hamstra, and my sister, Kathleen, for their prayers, patience, and encouragement.

Above all, I would like to acknowledge God for providing me with the wisdom and insights needed in order to reach my destination.

Table of Contents

CHAPTER ONE: THE RESEARCH PROBLEM

Introduction

Assumptions educators hold concerning the educational world often have a considerable effect on the way they teach and approach exceptional learners. Many educators tend to view these students from the perspective of a deficit paradigm and in doing so may limit their possibilities for growth. To increase the exceptional learners' potential for success, it is likely more effective to approach them from the perspective of a growth paradigm (Armstrong, 1994). Multiple Intelligences is an example of a blossoming theory which is rooted in the growth paradigm and may provide a key to unlock hidden abilities in the exceptional learner. This study explored teachers' perspectives on Multiple Intelligences and the pedagogical aspects they engage in as they use the theory in their practice with elementary-aged exceptional students.

Background of the Problem

Various intelligence theories have broadened our understanding of the human mind. They have served to expand our thinking with regard to the intellectual potentials of human beings. These theories may also provide a new way of thinking about children's learning problems. They appear to have powerful implications for the teaching-learning process (Gagne, Yekovich, & Yekovich, 1993).

As an elementary teacher, I recently became acquainted with one of these particular theories, Multiple Intelligences. I have also begun to incorporate it into my teaching practice. I felt that the theory assisted one's understanding of how exceptional children learn and provided a solid basis for one's teaching practices that could help these students experience more success in school.

Statement of the Problem Situation

The uniqueness of each exceptional learner creates the need for educators to engage in continuous critical and creative reflection, leading to practical actions in everyday situations and relations with the exceptional learner. Teachers must discover new ways of thinking about students' learning and find compatible instructional methods in order to facilitate exceptional students' intellectual growth.

Purpose of the Study

The purpose of this qualitative study was to explore teachers' reflections on Multiple Intelligences theory and the processes they engage in when using the theory with elementary-aged exceptional students. As a result of this study, I hoped to confirm my theories and new aspects of my practice. I also meant to deepen my understanding of the various pedagogical aspects teachers are engaged in when using Multiple Intelligences with elementary-aged exceptional students. In doing so, I hoped to further develop and extend my theories. As well, this research was intended to awaken other professionals' critical and creative reflection on Multiple Intelligences theory and the way in which they teach exceptional students.

Questions to be Answered and Objectives to be Investigated

In exploring the processes teachers engage in when applying Multiple Intelligences to their practice with elementary-aged exceptional students, the following questions served to guide this qualitative study:

What are teachers' perspectives on Multiple Intelligences theory?

How and why are these perspectives reflected in their teaching of exceptional students?

Importance of the Study

Exceptional students are part of the daily reality of teaching which should cause educators to critically and creatively reflect on how they can help these youngsters learn. A review of the literature appeared to indicate that few empirical studies have been conducted related to Multiple Intelligences and exceptional students. Nevertheless, in examining the literature, it was apparent that there certainly is merit in pursuing Multiple Intelligences theory to enhance one's practice with exceptional students. Specifically, using an interpretive approach to explore how and why teachers implement Multiple Intelligences in their classroom could illuminate our understanding of this theory. Finally, such research could enrich the repertoire of teachers' methods intended to foster intelligence in a broader community of learners.

Scope and Limitations of the Study

In order to do justice to the topic of exploring teachers' use of Multiple Intelligences with elementary-aged exceptional students, one would ideally ask teachers to keep extensive journals to document their practices and students' responses over a 1- to 2-year period. One would also observe them a number of times. However, the conceivable large amounts of data and time constraints make a project of that nature difficult to carry out for the purpose it is intended.

In relying on one observation and two interviews for each teacher, as well as several pages of teachers' own written reflections as data sources, this study was bound by the understandable restraints of space and time. An interpretive approach served at best to approximate teachers' daily actions with exceptional students.

The research described in this study was meant to provide a glimpse into the topic of teachers' use of Multiple Intelligences with elementary-aged exceptional students.

Outline of Subsequent Chapters

Chapter 2 examines various aspects of the literature relating to Multiple Intelligences theory and exceptional students. Initially, extensive definitions are provided for both concepts, followed by a review of the traditional classroom focus which is contrasted by an examination of cognitive psychology and the growth paradigm. An empirical study is scrutinized, and the premise for using Multiple Intelligences with exceptional students is surveyed. Finally, some areas of caution are highlighted.

Chapter 3 relates the methodology of the study. The research paradigm is discussed, and a rationale for and description of the design are given. Subsequently, the pilot study and my role as a researcher are considered. Participants are briefly described, along with the sampling strategy. In addition, data collection, recording, and analysis procedures are outlined. Finally, an account of the criteria for the study is offered, as are the limitations.

Chapter 4 describes the research results. Based on the data analysis, emergent themes are presented. Moreover, an interpretation of the data is provided, in which the voices of the participants are valued. Summaries of each theme relate the subthemes that surfaced.

Chapter 5 provides a summary of the study and focuses on the conclusions which may be drawn from the research findings. Educational implications and recommendations are suggested, as are implications for further research.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

Organization of the Present Chapter

In discussing teachers' use of Multiple Intelligences with elementary-aged exceptional students, a review of the literature pertaining to this topic appears to be a logical place to start. This chapter is intended to provide an overview of some aspects found in the vast and rapidly expanding body of writing related to the theory of Multiple Intelligences. In addition, it discusses topics relevant to exceptional students. Finally, the potential benefits and areas of caution are explored in applying the theory to one's practice in order to reach more students.

Multiple Intelligences Theory

Multiple Intelligences theory was developed by the Harvard University psychologist Howard Gardner and formally recognized in 1983. Its aim was to uncover and recognize human potential. Gardner's (1983) theory challenged the conventional view of intelligence which, he contended, focused on linguistic and mathematical accomplishments as predictors of success. Instead, Gardner (1993) proposed that intelligence be viewed as "the ability to solve problems, or to fashion products, that are valued in one or more cultural or community settings" (p. 7). Based on a carefully defined set of eight criteria, involving human development, brain research, and psychometric findings, Gardner identified seven distinct forms of intelligence; more recently, he added the eighth (Checkley, 1997; Gardner, 1995). Each intelligence consisted of "a set of abilities, talents, or mental skills" (Gardner, 1993, p. 15) that all individuals possess, some to a greater degree than others.

The eight forms of intelligence which Gardner identified included:

1. linguistic intelligence which is your ability to use language to express yourself and understand others, usually in the form of speaking, reading, writing, or

debating; poets and journalists often have a great deal of this type of intelligence;

2. logical-mathematical intelligence which displays itself when you show an understanding of the underlying principles of a causal system; this is apparent when you are good at math, logic, science, or philosophy;
3. spatial intelligence which demonstrates itself in your capacity to form a mental image of what is, or what can be; artists, engineers, and sailors are often very gifted with spatial intelligence;
4. musical intelligence which reflects itself in your ability to think musically and to recognize, remember, and perhaps manipulate musical patterns; Leonard Bernstein and Mozart exhibited high levels of musical intelligence;
5. bodily-kinesthetic intelligence which reveals itself when you solve problems using your whole body or parts of it (e.g., your hands); think of athletes, mechanics, surgeons, and craftspeople;
6. interpersonal intelligence which emphasizes the gift to communicate, understand, and get along well with others; salesmen, teachers, and religious leaders are people who often have a high degree of interpersonal intelligence;
7. intrapersonal intelligence which strives to understand one's "self" through introspection and reflection; thus, it includes personal knowledge of one's other intelligences;
8. naturalist intelligence which is your ability to recognize, classify, and have a sensitivity to things which are a part of nature; botanists, farmers, and chefs often draw from their naturalist intelligence (Checkley, 1997; Gardner, 1987; Gardner, 1993; Gardner, 1995; Tobias, 1994).

The Harvard scholar also considered a spiritual intelligence. However, evidence of its existence in the nervous system, which was one of his criteria for identifying an intelligence, remains obscure (Checkley, 1997; Gardner, 1995).

Gardner (1987) suggested that we use Multiple Intelligences theory to understand the eight intelligences we possess and use when we take in certain kinds of information or content. He asserted that these intelligences were never used in total isolation; during our daily activities, a number of them could be interacting together. In addition, Gardner contended that intelligence was not something static, such as an I.Q. score is often believed to be. Rather, one's intelligences had the potential to grow and expand (Checkley, 1997; Gardner, 1987).

Experts maintained that in attempting to identify the various ways students were intelligent, educators could help them understand what their strengths were and show them how to use their natural abilities to learn and work on their weaker areas (Armstrong, 1994; Checkley, 1997; Greenhawk, 1997). In doing so, Gardner (cited in Checkley, 1997) proposed that students would experience more success, not only in school, but hopefully also in the future when they entered the "real" world.

Exceptional Students

Ontario's Educational Amendment Act of 1980, also known as Bill 82, defined an exceptional student as "one whose behavioural, communicational, intellectual, physical, or multiple exceptionalities are such that he is considered to need a placement in a special education program by a committee [1:20, a]" (cited in Winzer, 1987, p. 94). This definition included children with learning disabilities, emotionally disturbed children, children with behavioural disorders, the educable mentally retarded and trainable retarded children, gifted and talented children, children with hearing, language, speech, or visual impairments, and children with physical handicaps, autism, or multiple handicaps (Weber, 1993; Winzer, 1987).

From this wide realm of exceptional learners, I chose to limit my research by focusing on students with learning disabilities, since these children were part of the typical student population participant teachers were faced with in their everyday classroom situations.

The Ontario Ministry of Education, in Special Education Handbook, 1984, defined children with a learning disability in the following manner:

A learning disorder evident in both academic and social situations that involves one or more of the processes necessary for the proper use of spoken language or the symbols of communication, and that is characterized by a condition that:

(a) is not primarily the result of:

*impairment of vision;

*impairment of hearing;

*physical handicap;

*mental retardation;

*primary emotional disturbance;

*cultural difference;

(b) results in a significant discrepancy between academic achievement and assessed intellectual ability, with deficits in one or more of the following:

*receptive language (listening, reading);

*language processing (thinking, conceptualizing, integrating);

*expressive language (talking, spelling, writing);

*mathematical computations;

(c) may be associated with one or more conditions diagnosed as:

*a perceptual handicap;

*a brain injury;

*minimal brain dysfunction;

*dyslexia;

*developmental aphasia. (Weber, 1993, p. 154)

The Traditional Classroom Focus

Traditionally, the focus of most classroom instruction emphasized linguistic and logical-mathematical learning. Many educators' view of competence appeared to be limited to these two abilities (Armstrong, 1988). Armstrong maintained that it was obvious that students whose intelligence strengths were in these areas would fare well. However, he contended that because "learning different" (Armstrong, 1988, p. 34) students experienced difficulties with this approach, they were considered learning disabled, while their dominant strengths beyond these areas were neglected. As a result, they were often underachievers.

Cognitive Psychology

Cognitive psychology "attempts to understand the nature of human intelligence and how people think" (Anderson, 1985, p. 1). Within the educational context, cognitive psychology can be defined as "the scientific study of mental events that take place in learners and teachers during the schooling process" (Gagne, Yekovich, & Yekovich, 1993, p. 4). This science raised our awareness of how people solve problems and how they learn. Gagne et al. (1993) postulated that such knowledge about human learning processes assisted in explaining why certain students are successful in learning and could help teachers alleviate or prevent failures. Therefore, they asserted that cognitive psychology served to guide a teacher's thinking about learning. Nevertheless, Gagne et al. (1993) maintained that although it provides a theoretical basis for teacher decision making, it does not pretend to have absolute answers.

Gagne et al. (1993) asserted that cognitive theorists make use of various models to shed light on questions regarding teaching and learning. These models are helpful, since they provide "a way for thinking about...[teaching and learning] that is tractable and supported by empirical evidence" (Gagne et al., 1993, p. 7).

An example of one of these models is Sternberg's (1985, 1987) triarchic theory of intelligence. In this theory, Sternberg proposed three types of intelligence, the componential, experimental, and contextual, which every person has to a greater or lesser degree. Each aspect involves a variety of cognitive processes relevant to specific situations in everyday life:

1. The componential aspect reveals your ability to efficiently process and analyze information. Students who score high on standardized intelligence tests often have a high degree of this type of intelligence.
2. The experimental aspect is demonstrated by your insights and creative thinking in novel situations. It involves the ability to automatize various cognitive processes when approaching new tasks.
3. The contextual aspect relates to your practical knowledge in adapting to, selecting, and shaping your environment to fit your needs. In adult life, this aspect is valuable for example, in selecting an appropriate job or place to live (Papalia & Olds, 1996; Pintrich, 1990).

Sternberg (1986) believed that this model would be especially helpful in preparing adolescents for the "real world," and therefore developed a program to foster these aspects of intelligence in high school students.

Yet another example of a cognitive theory is Gardner's approach. Rooted in cognitive psychology, Gardner's (1983) theory of Multiple Intelligences is one on which various models of learning are based. According to Gardner (1987), many cognitive theorists attempted to explain the organization of mental faculties in terms of a horizontal theory. They assumed that there were basic "horizontal laws" (Gardner, 1987) of learning which equally applied to perception, learning, memory, and attention, regardless of the content. In contrast, Gardner (1987) proposed that "the mind is organized [vertically] in terms of content.... Each content, each vertical faculty has its own principles of learning, memory,

perception" (Gardner, 1987, p. 31). Therefore, he suggested that our memory might function differently with different types of material.

Gardner (1987) maintained that rather than placing an emphasis on linguistic and mathematical ways of learning, we need to take the different types of intelligences into account. In doing so, he postulated that we might be able to analyze why learning happened in one situation, and not in another. Therefore, he believed it was important to look at the intelligences a student actually used and the ones a student needed to use in order to learn. Obviously, a cognitive theory such as Multiple Intelligences has implications for the way in which we plan for and teach those students who have difficulty learning.

The Growth Paradigm

When viewing learning as it occurs in the individual student, we are reminded of the analogy of the glass being half full or half empty. When using the Multiple Intelligences approach, we direct our attention to what students can do. Armstrong (1994) proposed that we shift our thinking about exceptional students "and begin to work within the parameters of a growth paradigm" (p. 135) instead of primarily regarding them within the framework of a deficit paradigm. In order to do this, he contended that it was necessary to view children with special needs as "whole persons," having strengths in various intelligences. Although Multiple Intelligences theory did acknowledge disabilities, Armstrong (1994) asserted that the disability was only a part of one intelligence area which left vast fields of learning potential to be explored. He proposed that educators use cognitive bypassing for students with disabilities. That is, by taking advantage of a student's intelligence strengths, one could often provide an alternate route to deal with a child's limitations in a specific area.

An Empirical Study

In an exploratory study, Summey and Strahan (1997) researched the perceptions of 11 seventh-graders with mild disabilities, regarding an inclusive approach to language arts instruction. The unit of instruction, which was developed for the study, used Gardner's (1983) theory of Multiple Intelligences as a basis for planning and teaching. It was called the "Mindful Learning Approach" (Summey & Strahan, 1997). The approach incorporated learning activities into the language arts curriculum that addressed seven intelligences. This gave students the opportunity to do activities that matched best with their way of learning. Moreover, the Mindful Learning unit also included reading comprehension strategies. Through this approach, Summey and Strahan (1997) hoped that students with learning disabilities would be more actively involved in their learning, develop metacognitive strategies, improve their reading ability, and become independent thinkers.

In a previous study, Strahan (1988) found that failing seventh-grade students with learning disabilities were only superficially engaged in academic tasks, since they depended on help from others or merely gave the appearance of completing the task. In contrast, more successful students with similar problems had acquired practical strategy skills to complete their assignments. The superficial engagement of the at-risk seventh-graders, along with a lack of strategies, made it difficult for them to complete their tasks. It was apparent that these students needed to be stimulated to be active learners, so that they could become connected to their learning in a positive way. Based on additional research evidence, Summey and Strahan (1997) concluded that "cognitive engagement is a primary determinant of classroom learning" (p. 38). The authors felt that "Gardner's theory of Multiple Intelligences...[offered] a powerful basis for enhancing cognitive engagement" (Summey & Strahan, 1997, p. 38).

Using an exploratory case study strategy with multiple units of analysis, Summey and Strahan (1997) interviewed students, administered individual reading inventories, and

observed lessons. As a result of this information, they developed student profiles. These functioned as a framework for planning a unit with the seventh-grade language arts teacher and special education teacher which was based on the novel The Outsiders by S. E. Hinton (1968). The researchers served as participant observers while the lessons were being taught. After the unit was finished, students were interviewed regarding their perceptions of the Mindful Learning Approach and their reading skills were reassessed.

Results showed that students were more cognitively engaged in the learning process. Each student mentioned certain "Mindful" activities they had especially enjoyed. They were also able to explain how these had helped them learn. Remarkably, 8 of 11 students were able to demonstrate a reading strategy, 7 of 11 went up one grade level or more in their reading ability, and 6 of 11 completed tasks independently. One of the shortcomings of the researchers' procedures was that they used a Grade 7 test to evaluate the reading abilities of Grade 7 students with mild disabilities, some of which were only at a Grade 2 or 3 reading level.

Why Multiple Intelligences Affects Exceptional Students' Learning

Educators need to find ways to reach and teach all children. Applying Gardner's (1983) theory on intelligences in our classrooms could help us achieve this goal (Armstrong, 1994; Faggella & Horowitz, 1990). An awareness of our students' intelligence strengths could enable us to encourage "at promise" (Faggella & Horowitz, 1990) students in a specific intelligence and assist us in intervening with students "at risk." In this way, we could help all students experience success and "find their own niche in learning and in life" (Faggella & Horowitz, 1990, p. 50).

When teachers used an approach that encouraged exceptional students to become actively connected to their learning, they experienced more success (Summey & Strahan, 1997) and were more motivated to learn. As a result, their confidence and self-esteem increased. Taking a positive approach to learning could help free the learner emotionally

to learn. Gardner (1987) maintained that when we recognized and deliberately tried to make use of "all combinations of human intelligences...[and succeeded in this], individuals...[felt] better about themselves. With enhanced self-esteem, they may be more inclined to contribute to the general welfare of the community" (p. 35). Thus, "the more we learn to identify and use multiple ways of being smart, the more effective our education system can become in equipping the next generation for dealing with the real world" (Tobias, 1994, p. 138).

Hatch's Application of the Theory

Hatch (1997) suggested that we get more specific when discussing Multiple Intelligences. Instead of just broadly labelling a child as having certain strengths, he asserted that it was necessary for educators to look more closely at the particular ways the child demonstrated this strength, rather than assuming that a child would show strengths in all activities associated with a particular intelligence. In order to do this, Hatch maintained that we consider such factors as "what intelligences...[children] possess, their interests in and knowledge of particular fields, and the contexts in which they live and learn" (Hatch, 1997, p. 26).

Besides developing strengths in specific activities, Hatch (1997) contended that a balanced approach be used which provided opportunities to work on all the skills which students needed in order to be successful in school. He identified several ways of doing this. First, he proposed that we organize our curriculum around the child, instead of around the intelligences. Second, he suggested that as children developed, the way in which they displayed their intelligences could shift, grow, and vary, as interests, new peer groups, and academic activities changed over time. Therefore, he cautioned not to attach permanent labels to children. Third, Hatch advised teachers to keep track of a child's strengths and pass on this information to other teachers. This way they would be better equipped to respond to students' strengths and needs. He recommended constructing

portfolios with the children, or having a teacher stay with the same class for an additional year. Finally Hatch (1997) proposed that we "constantly question our assumptions about...[the] child's strengths and about intelligence in general. And we must be willing to understand and respond to...[the] child as an individual" (p. 29).

Summary of the Literature Review

Gardner's (1983) Multiple Intelligences theory presented us with a pluralistic view of intelligence. He maintained that one's intelligence had the potential to grow and expand. Using this theory, educators could help children understand their natural strengths and guide them to use these abilities to learn and work on their weaker areas (Armstrong, 1994; Checkley, 1997; Greenhawk, 1997).

In this chapter, the term "exceptional children" was defined. From this wide realm of exceptional learners, I chose to limit my research to students with learning disabilities.

Traditionally, most instruction emphasized linguistic and logical-mathematical ways of learning. This approach tended to neglect the abilities of students whose dominant strengths were beyond these areas and often resulted in underachievement (Armstrong, 1988). Cognitive psychology could serve to guide a teacher's thinking about learning problems (Gagne, Yekovich, & Yekovich, 1993). When failing students were taught in ways that complemented the way they learned, improvement was often seen on standardized test scores, in school behaviour, and in their attitude towards learning (Greenhawk, 1997; Summey & Strahan, 1997). By recognizing and deliberately trying to make use of all combinations of intelligences, Multiple Intelligences theory had the potential to improve students' self-esteem as well (Gardner, 1987). Educators were encouraged to "constantly question...[their] assumptions about...[the] child's strengths and about intelligence in general...and...be willing to understand and respond to...[the] child as an individual" (Hatch, 1997, p. 29).

Finally, one must realize that "MI is not a quick fix. But educators who thoughtfully use the theory to support their larger educational goals find that....[by working together, they can enhance] educational opportunities for many students" (Gardner, 1997, pp. 20, 21).

CHAPTER THREE: METHODOLOGY AND PROCEDURES

Overview

This chapter outlines the methodology and procedures employed for this study. The research paradigm and its related features are delineated. In addition, a rationale for the design and its description are provided. The pilot study is described, followed by a description of "my personal signature," and my role as a researcher. Furthermore, the sampling strategy and a brief description of the participants are given. Subsequently, an outline of the data collection, recording procedures, and the data analysis is presented. Finally, the criteria for the study and its limitations are considered.

The Research Paradigm

In this study, I explored the following questions:

*What are teachers' perspectives on Multiple Intelligences theory?

*How and why are these perspectives reflected in their teaching of exceptional students?

These questions represented a quest to make teachers' reflections on Multiple Intelligences explicit and to understand how and why these reflections were put into action in their practice with exceptional students.

The way the research questions were formulated affected the choice of paradigm in which the study was conducted. In this study, they were designed to explore complex thought processes and interactions within a specific context: teachers' views and experiences in applying Multiple Intelligences theory to their practice with exceptional students. The data generated from these questions primarily consisted of rich descriptions of participants' insights, beliefs, and teaching approaches, in the form of transcribed interviews, field notes, and teachers' own written reflections. Detailed analysis of such data resulted in valuable information regarding the processes which teachers use to reach their students. Thus, the nature of the questions suggested a paradigm which sought to

describe, interpret, understand, and value the unique voices of the participants as they shared their perspectives and experiences related to the complex ways of teaching and learning. The qualitative paradigm appeared to be most appropriate for these purposes.

Features Within the Qualitative Paradigm

Eisner (1991) referred to six features of research initiated within the qualitative paradigm which specifically applied to this study. First, it was "field focused" (p. 32). The teachers and situations were observed, interviewed, recorded, described, interpreted, and appraised, valuing the natural setting in which their actions occurred. Second, "the self...[was used as] the instrument which...[engaged] in the situation and...[made] sense out of it" (p. 34). Since each person's history and view of the world is very different from anyone else's, Eisner (1991) maintained that how we respond to a situation and interpret what we see, will bear our "unique signature" (p. 34). This applied to the participants as they made sense of their experiences, as well as the way in which I made sense out of their experiences. Eisner (1991) asserted that this unique signature was not to be viewed as something negative, but as a means for providing personal insight into a situation. Nevertheless, he cautioned that valuing "personal insight as a source of meaning does not provide a license for freedom....[The researcher] must provide evidence and reasons" (p. 35). Third, this qualitative inquiry was interpretive in two senses. In the first place, I attempted to interpret what the participants' perspectives were regarding Multiple Intelligences and how and why they used the theory to accommodate exceptional students. In the second place, I took into consideration that this interpretation applied to what these experiences meant to the participants in their specific situations. Fourth, throughout this study "the presence of voice and the use of expressive language" (p. 36) were valued. They revealed the personal signature of the researcher as well as the participants. In particular, the voices of the participants were viewed as significant as they related "lived experience" (van Manen, 1990) from their point of view. This, along

with the use of expressive language, contributed to enhancing the understanding. Fifth, attention was given to "particulars" (p. 38) in the situation in which the data were collected. Since the data were not collected in a "sterile environment," but within a specific context, each detail was regarded as important, because it had the potential to provide the researcher with clearer insights into the topic being studied. Sixth, Eisner (1991) contended that "qualitative research becomes believable because of its coherence, insight, and instrumental utility" (p. 39). The researcher needed to convince the reader through making the methodology explicit and by using field notes and quotes as the basis for the interpretive process.

Rationale for Design

Exploring teachers' perspectives and experiences with Multiple Intelligences and exceptional students could best be done within the context of the classrooms where these actions took place. As teachers gave voice to their reflections and made the actions they took within their particular settings explicit, they deepened their own understanding of their practice. Through my interaction with the participants, I became more fully informed of the pedagogic situations they engaged in when using Multiple Intelligences with exceptional students. Interpreting their perspectives and experiences assisted in illuminating my understanding and could stimulate other practitioners to reflect on the way they teach exceptional students. An interpretive approach (Bogdan & Biklen, 1992; van Manen, 1990) was therefore applied.

Description of Design

Since a review of the literature provided little evidence of previous research in the area of my inquiry, this study may be considered exploratory (McMillan & Schumacher, 1997). Within the interpretive approach, exploratory studies are designed to initiate further inquiry. Specifically, I focused on the teachers' critical-creative processes of

"reflection-in-action" and "reflection-on-action" (Schon, 1987) as related to Multiple Intelligences and exceptional students. Interpreting their reflections in and on action provided the opportunity for me to gain an in-depth understanding of the research topic, as I learned from the learning experiences of my participants. Finally, the design was emergent in nature, since each decision in the research process was a result of preceding information (McMillan & Schumacher, 1997).

The Pilot Study

In March, 1997, I conducted a pilot study with two elementary school teachers. They were chosen because they had a certain familiarity with Multiple Intelligences and exceptional students. At the onset of the interview, the purpose was explained. Subsequently, the interview was guided by a set of general questions which took into account varying degrees of knowledge on the part of the participants.

The first participant was much more familiar with the topic than the second participant. Therefore the first teacher was able to contribute a great deal regarding the application of Multiple Intelligences to accommodate the needs of exceptional students as well as students in general. The second participant had just recently been introduced to the topic. Therefore, she did not provide as extensive information; however, it seemed that talking it through contributed more to her own professional development. Although the insights that this teacher gained through the pilot study were commendable, the study also taught me that in order to be consistent with the purpose, it was important to find information-rich individuals who would really be able to contribute to the research.

During the pilot study, I also realized how helpful it was to use a tape recorder. Without it, I would have lost a lot of valuable data. Moreover, the participants' personal signature was much more authentic, since it had not been filtered through the researcher's signature. After transcribing the taped information, I was surprised at how much data could be gathered from just a half-hour interview.

Coding the data was an illuminating experience. Content analysis (Marshall & Rossman, 1989) was used to identify main categories of meaning. These were coded by putting lines in the margin using a colour-coded legend. Subcategories emerged within these main categories. These were underlined, again using a colour-coded legend. The coding process enabled me to organize my data in such a way that I could glean a lot of valuable information from it regarding the processes which teachers use when applying Multiple Intelligences to exceptional students.

During my pilot study, the notion of reciprocity was illustrated, that is, offering something in return for the time, insights, and information the participants contributed. The two interviewees seemed to find the interviews a worthwhile experience. Some of the comments they made at the end were:

> Just you posing the questions was good. It kind of helped me sort out my thoughts.... I've never thought about it in the way I've been talking about it. I've also never really had the opportunity to talk about it this extensively. I focused in on certain intelligences, but I've never written a paper on it or anything to sort out my thoughts.... So, I have gained something from this interview. Just you asking certain questions forced me to think about it.
>
> Until I had articulated these ideas, I didn't really know where to go with them, or how I could begin to plan them into my routines or program. I know that my zeal and conviction for appreciating individual differences has been renewed through these discussions which can only be a plus...

My Personal Signature

When I began my teaching career in January 1991, one-third of my Grade 5 class had been identified as exceptional students. Ever since that time, I have been interested in helping these children learn. I have worked as a regular Grade 5 teacher for almost 2 years and as a regular Grade 4 classroom teacher for the last 4 1/2 years. Currently, I am

enrolled as a full-time student in the Master of Education program at Brock University. Through my teaching experiences and professional growth, I often intuitively developed theories regarding my practice with exceptional students. Over time, I have come to realize that a teacher's beliefs, attitudes, and teaching approaches have the potential to play an important role in the lives of his or her students.

Whether or not exceptional children are successful in school, may have a considerable impact on their life. As a Christian school teacher in a Reformed Christian setting, I believe that education should be a preparation for life and the life to come. It should encourage children to apply the tools of learning, develop the mind, and furnish the necessary knowledge and skills to function in life as a mature person.

I believe that each child, and especially the exceptional student, should be viewed in his or her totality. Not only should intellectual development be emphasized, but also spiritual, emotional, social, physical, and moral needs should be considered and provided for. I have often found that exceptional students were underachieving because of a poor self-concept which had led to a state of learned helplessness. My particular interest is to give the child a sense of security, provide opportunities for success, and stimulate a feeling of confidence. I seek to do this by creating a caring and supportive classroom environment in which I aim to discover, recognize, and nurture a student's unique abilities and potentials.

As I reflect on my teaching experiences and students' learning, I often feel akin to a musician. Besides having a passion for teaching, I play various instruments, and have a great love for music. Over the years, I have been able to see many similar threads interwoven through both professions. I believe there is "music" in every child, for God has wonderfully made each one (The Holy Bible, Psalm 139:14b). To me, all my students are valuable instruments that I have the opportunity to play. Just as each instrument is different, every child is unique, with his or her own complex needs, God-given talents, and abilities. A good musician explores the numerous possibilities of an

instrument, showing sensitivity towards all its facets, in order to get the most out of it. Likewise, I feel it is important for teachers to get to know their students, discover their abilities, and find positive ways to tap into them.

The uniqueness of each exceptional learner creates the need for the teacher to continuously engage in a critical, creative process of reflection, leading to action which will stimulate a "musical performance." At the time I was taking my first graduate course at Brock University, I was about to receive a number of students in my class with severe exceptionalities. Through a discussion with my professor, a professional learning cycle was set into motion, characterized by McNiff (1993) as "identification of problem-imagination of solution-implementation of the solution-evaluation of solution-modification of practice" (p. 30). In a research paper which aimed to link Multiple Intelligences theory to my own classroom practice, I addressed the question "How Can I Teach to Accommodate My Students' Learning Styles?"

During the past year, I have begun to incorporate Multiple Intelligences into my teaching, attended various workshops on this topic, and have spoken with other teachers who had experience with Multiple Intelligences. I also took graduate courses in Special Education. By engaging in these activities, I hoped to gain a better understanding of how to effectively incorporate this theory into my teaching practice, specifically with exceptional students. I was intrigued by the fact that on various occasions, using Multiple Intelligences seemed to provide a key to unlock hidden abilities in the exceptional learner. At the same time, other students appeared to enjoy this teaching approach as well. In many aspects, Gardner's (1983) model seemed to complement my philosophy of education. In particular, I valued the fact that it was based on a growth paradigm which provided the student with a greater opportunity to reach his or her full potential.

Through exploring other teachers' perspectives and experiences with Multiple Intelligences and exceptional students, my learning cycle would be extended. As a result of this research, I hoped to gain a fuller understanding of this topic, in order to further

develop and extend my theories regarding the application of Multiple Intelligences to teaching exceptional students. This research was also intended to provide the incentive for other professionals to engage in their own reflective cycles concerning Multiple Intelligences theory and the way in which they teach exceptional students.

My Role as Researcher

As a researcher, I recognized that the personal signatures of both my participants and myself would colour our interactions and affect the data elicited. My participants would endorse Multiple Intelligences theory in varying degrees. The teachers who were currently using it in their practice obviously saw some benefit in it. As a Christian teacher, I had a definite interest in applying this theory, and my own voice was not value neutral. As a researcher, I recognized that the Christian School context in which I aimed to apply my learning varied from the Public School context in which the participants worked. In order to allow this study to inform me on the topic in its broadest sense and assist me in improving my professional decision making as to how I was going to further implement Multiple Intelligences in my practice with exceptional students, I needed to recognize and transcend my own subjectivity as much as possible and focus on what the experiences of my participants meant to them. When interpreting the data, I would need to be cautious to interpret them from the participants' point of view as well.

My stance upon entering the field, as a qualitative researcher, was reflected in Geertz's (1979) eloquent description of this role. I would not come

> as a person who pauses while passing by, but as a person who has come for a visit; not as a person who knows everything, but as a person who has come to learn; not as a person who wants to be like them, but as a person who wants to know what it is like to be them... (cited in Bogdan & Biklen, 1992, p. 79)

Marshall and Rossman (1989) emphasized the importance of reciprocity in educational research. The pilot study illustrated that interviews become an opportunity for

meaningful dialogue to take place. People often enjoy telling about their work experiences and appreciate the interest of a sympathetic listener. As well, it seems to be beneficial to clarify one's thoughts and experiences. (Merriam, 1988).

Sampling Strategy & Limitation

Information-rich participants were purposefully selected through network sampling, a strategy in which participants refer the researcher to other individuals based on particular attributes or traits which the researcher has developed (McMillan & Schumacher, 1997). My advisor suggested a sample size of four and referred me to the first participant, who in turn directed me to the other three participants. Teachers were chosen on the basis of their involvement with Multiple Intelligences and elementary-aged exceptional students. During an initial telephone call, I briefly introduced myself, identified the purpose of the research, the tentative procedures involved, and obtained their verbal consent to participate in the study. As well, basic background information was acquired to establish profiles of the participants.

A limitation of the use of network sampling was that I did not know my participants, nor did they know me. Therefore, taking time to establish a rapport would be important.

Description of Participants

The participants in this study consisted of four teachers with various career backgrounds which were relevant to the exploration. Each works in a different school which is affiliated with one large suburban Board of Education.

The first participant, Bev, works partly as a Grades 6 and 7 Social Sciences and Language Arts teacher and partly as a Special Education Resource Teacher for Grades 5 and 6. She is involved with a wide variety of exceptional students. Bev is employed at a fairly new school in a suburban setting, with students coming from various socioeconomic backgrounds. The school is primarily inclusive but also services special

education students with some withdrawal. Bev has 26 years of teaching experience and holds a BA in Anthropology. Currently, she is enrolled in a Master of Education Program.

The second participant, Andrea, is a Special Education Resource Teacher. Her role involves collaborating with the regular classroom teachers to plan and program for exceptional students. She only participates in some of the actual implementation. Andrea works at a K-6 school in a residential area and is responsible for 12 classes. Students come from middle to lower-upper socioeconomic backgrounds. Andrea has received her BA and her BEd degrees. She was an occasional teacher for 4 years but has taught full-time since 1987.

The third participant, John, works at a school in a lower socioeconomic area. He has 21 years of teaching experience in Grades 2-8 and is currently a Grade 5 teacher. There are a variety of exceptional students in his class. John has received his Honors BA and has a Type A in History BEd. As well, he has his Junior Specialist.

The fourth participant, Robin, teaches at a large dual track K-5 immersion school. She has 33 years of teaching experience and is currently involved in a personal research project on Multiple Intelligences. Robin has written a book about goal setting. Through her current research, she hopes to write a book on learning through the Multiple Intelligences. She holds credits for a number of courses from the University of Toronto toward a BA. Robin is a regular Grade 2 classroom teacher and works with a variety of children at all skill levels. Her students come from various socioeconomic backgrounds.

It was not the intent of this study to compare these four educators, but rather to describe their work in action. They are obviously employed in very different settings. Their varied educational backgrounds, knowledge of Multiple Intelligences theory, and experiences added depth to the study.

Data Collection and Recording Procedures

Initially, the research was going to rely on an introductory observation visit, in-depth interviews, field notes, and student products as data sources. Prior to the study, I contacted the research officer of the school board by telephone, who sent me a package of information, including application forms. The latter were filled out and approved by the boards' research advisory committee, along with a copy of my research proposal. As well, participants were mailed the Informed Consent Form (see Appendix A) to outline the purpose and tentative procedures involved in the research.

Semistructured in-depth interviews (Marshall & Rossman, 1989; Rothe, 1993) were the primary method of data collection. Kahn & Cannell (1957) described this method as a "conversation with a purpose" (cited in Marshall & Rossman, 1989, p. 82). The purpose of the interviews was to have practitioners make their perspectives on Multiple Intelligences theory explicit. As a result of reflection, they communicated the behaviours they engaged in as they applied the theory to their practice.

By first understanding the framework within which the participants interpreted their thoughts, feelings, and actions, I would be able to acquire a better understanding of their reflections in and on action. Therefore, prior to the interviews, I scheduled a visit with the participants to become acquainted and observe them in their classrooms, preferably using Multiple Intelligences. This was done on a voluntary basis at a time which was suitable for them. All four participants consented. Written permission to observe the teacher and his or her students was also obtained from the principal of the respective schools (see Appendix B). The protocol which describes how I observed the individual teacher participants can be found in Appendix D. This was mailed to them prior to the visit, along with the Informed Consent Form. The length of time spent with each teacher varied between 1 hour to 2 hours and 20 minutes. The visit served to establish rapport with the participants and gain an impression of the context in which they taught. In

addition, I felt that the data from the interviews would make more sense against the background in which the participants did their work.

Subsequently, a series of three separate interviews were scheduled over a period of approximately 3 months. They would take place at a time and location which was convenient for each participant. During the introductory observation visit, participants were offered a set of preliminary questions (see Appendix E) to stimulate reflection for our first interview. They were also provided with definitions of Multiple Intelligences and exceptional students. Permission to tape-record our conversations was requested in the Informed Consent Form. All participants consented. Each tape-recorded interview ranged in length from 30-40 minutes and was transcribed.

The interviews were semistructured and focused around the research topic. They were guided by some general questions (Bogdan & Biklen, 1992; Merton & Kendall, 1946). During the interviews, the researcher respected how the participant framed and structured the responses. Probes were used to increase further comprehension (Bogdan & Biklen, 1992; Rothe, 1993). Since "the quality of the data is dependent upon the quality of the relationship you build with the people being interviewed" (Measor, 1985, p. 57), Measor's interview strategies were employed to develop a co-researcher relationship.

Field notes were made during the observation visit and interview to record anything of importance or interest. Caution was taken to restrict note taking to a minimum while in the research setting, since it could have the potential to "[interfere] with,...[inhibit], or in some way...[act] upon the setting and subjects" (Marshall & Rossman, 1989, p. 110). Additional field notes were made immediately after the visits to the participants. These complemented the transcribed interviews and enriched their interpretation.

Teachers were also asked to collect exceptional students' products which were representative or exemplary samples of their work and illustrated the result of the teachers' application of Multiple Intelligences theory. Written permission was obtained from each principal to examine these products (see Appendix B). During my first visit to

the teachers, I discussed with them that parental permission would be required, should any student products be referred to within the final research project. The Parental Consent Form in Appendix C would be used for this purpose. Exceptional students' products would add depth to the data analysis and interpretation.

At various points during the research, member checks were conducted in order to ensure that the collected data were accurate and complete.

Since the research design was emergent, further plans evolved as I learned more about the participants and their settings. "Qualitative researchers go off to study carrying the mental tools of their trade, with plans formulated as hunches, only to be modified and remolded as they proceed" (Bogdan & Biklen, 1992, p. 58).

During an interview, one of the participants pointed out that expressing oneself in different intelligences had the potential to shed light on matters from different angles. This idea led me to alter the proposed number of interviews. After soliciting feedback from the participants, I obtained their verbal permission to use their intrapersonal intelligence to write one page of reflections regarding their perspectives on Multiple Intelligences and elementary-aged exceptional students. This would serve to complement the interviews in which participants expressed themselves primarily using their interpersonal intelligence. It would also take the place of the third interview. Each participant contributed one to six typewritten pages of reflections.

Towards the end of my study, I also reconsidered examining student products. Using these would shift the focus of my research from the teacher to the student. As well, I felt I had collected a rich amount of data from the participants, consisting of a total of 170 pages. Therefore, I decided not to incorporate exceptional student products within the scope of this research.

Data Analysis

Content analysis (Marshall & Rossman, 1989) was used to review the data for patterns and themes related to the research question. As categories of meaning emerged, I looked for those that were "internally consistent but distinct from one another..., the salient, grounded categories of meaning held by participants in the setting" (Marshall & Rossman, 1989, p. 116). These categories consisted of Multiple Intelligences and You as a Teacher/Learner, Multiple Intelligences and Exceptional Students, Multiple Intelligences as Theory, and Multiple Intelligences and Your Teaching Perspective.

Given the interpretive nature of the study, which focused on participants' reflections-in-action and reflections-on-action concerning Multiple Intelligences and elementary-aged exceptional students, I decided to specifically interpret participants' content, process, and premise reflections (Cranton, 1994). In this study, content reflections were those which answered the question: What are participants' underlying beliefs and assumptions regarding the research topic? Process reflections described how participants put these beliefs and assumptions into practice. Finally, premise reflections were those in which participants expressed why they put these into action.

The system for analysis used in this study was much like the index card system described by Lincoln & Guba (1985). However instead of placing "units of data" (Lincoln & Guba, 1985, p. 344) on index cards, I entered them into my computer. In order to organize the data, all field notes, transcribed interviews, and written reflections received a page number (Bogdan & Biklen, 1992). Subsequently, I set up a file on my computer for each participant with the four main categories. As I read through the material I had collected, units of data which were relevant to the research topic were identified as a content, process, or premise reflection. Each of these units was either interpreted into my own words or directly quoted. It received a number and was entered into one of the four main categories on my computer, along with the page number on which it was found (e.g., 11. Follow-up class discussions were also helpful for students

to understand the different components of the theory [p. 7].). To "cross-code" (Bogdan & Biklen, 1992) the data, this number (e.g., 11) was also written in the right margin of the text on which it was based.

As reflections began to accumulate in these main categories, subcategories of meaning emerged. For example, in the category labeled MI and Exceptional Students, the subcategories Perspectives of Exceptional Students, Enhancing Exceptional Student's Self-Esteem, and Promoting Cognitive Engagement came to the fore. By reducing the data into manageable chunks, I was able to describe and interpret the data, bringing "meaning and insight to the words and acts of the participants in the study" (Marshall & Rossman, 1989, p. 114). Subsequently, a member check visit was arranged with each participant to negotiate meaning and ascertain the credibility of my interpretations. After reviewing the subcategories from all the participants, those which overlapped were merged together. Main subcategories were selected to be part of the research results (Bogdan & Biklen, 1992). Subsequently, field notes, interpretations, and quotes in each of the subcategories were woven together. As a final member check, each participant received the sections pertaining to that individual, accompanied by the letter in Appendix F; no changes were suggested.

Criteria for the Study

All research must respond to criteria against which its trustworthiness can be evaluated (Marshall & Rossman, 1989). In this study, four specific criteria were important in this respect: the credibility of the study, its transferability, its dependability, and its confirmability (Lincoln & Guba, 1985; Marshall & Rossman, 1989).

Credibility was established by embedding in-depth descriptions with direct quotes from the data during the interpretive phase, in order to support my insights and preserve the authenticity of the voices of the participants. Moreover, member checks were conducted in order to ensure that the participants were accurately identified and

described. As well, I ascertained that observations and reflections were properly interpreted. Finally, by clearly making the parameters of the setting, participants, and theoretical framework explicit, the research could be considered valid within these parameters (Lincoln & Guba, 1985; Marshall & Rossman, 1989).

Through gathering data from experienced teachers by means of the interpretive approach, my professional learning cycle, as it applied to Multiple Intelligences and exceptional students, was extended, as I vicariously learned from the participants. Thus, this research had great personal significance for my professional development. The participants' perspectives on Multiple Intelligences Theory and their descriptions of how and why these were put into action with exceptional students, contributed to enlightening my understanding and would enable me to enhance the way I teach exceptional students.

Transferability of the study refers to the notion of being able to apply the findings to another context (Lincoln & Guba, 1985; Marshall & Rossman, 1989). This could occur in two senses. First, using the interpretive approach, data were collected and analyzed. After summarizing my findings which related to a particular sample of teachers and the context in which they taught, these findings were generalized to the specific population and contexts from which the sample was drawn. The notion of transferability in the second sense would be largely dependent on the reader's interpretation of the study as he brought his own experience and understanding to it (Lincoln & Guba, 1985; Marshall & Rossman, 1989, Merriam, 1988). If he were able to apply the findings to his teaching situation with exceptional students, causing the reader to add the new data from this study to his own "old data," transferability was said to have taken place. Thus, only if the findings were relevant to the reader, would transferability occur (Lincoln & Guba, 1985; Marshall & Rossman, 1989, Merriam, 1988).

Dependability was evident by accounting for changes in the chosen phenomenon and emergent design through making field decisions explicit. These changes were a result of

the changing social world in which the participants and researcher were engaged (Marshall & Rossman, 1989).

Confirmability could pose certain problems within the field of qualitative inquiry, since the social interactions in which the participants and researcher engaged were in a sense naturally subjective (Marshall & Rossman, 1989). Therefore, I do not pretend that this study is replicable. This is in keeping with the qualitative paradigm in which I chose to work. To a certain degree, the researcher's subjectivity was considered a strength within the qualitative study (Eisner, 1991; Marshall & Rossman, 1989). In order to gain access into the participants' world, I had to be able to establish a rapport with the participants. Moreover, my personal insights enabled me to describe the complex processes of reflection in and on action which were being researched. Nevertheless, it was necessary to provide controls for bias in my interpretation. I aimed to do this by consciously transcending my own subjectivity as much as possible, as I sought to understand what the "lived experience" (van Manen, 1990) of my participants meant to them. This was done by basing my data collection procedures and analysis on strategies described by experienced researchers, conducting member checks, accounting for negative instances of findings, discussing my biases, and allowing the voice of the participants to be heard within the results.

Limitations of the Study

When reviewing this study, several limitations are apparent. First, the decision to work with the four participants was intentional, based on their knowledge and experience with Multiple Intelligences and exceptional students. Therefore, the results of the study were only credible within the parameters of the specific contexts in which participants worked and the theoretical framework in which it was conducted. Moreover, the credibility of the data was also dependent on my ability to establish a co-researcher relationship with the participants during a short period of time. Finally, since the

researcher was conducting the interviews, the possibility of interviewer bias existed within the study's results.

Summary of Methodology and Procedures

This qualitative study was based on an interpretive approach. The pilot study proved to be beneficial in gaining insights into the research process. As a researcher, I was aware of several factors which had the potential to colour the data, the need for transcending my own subjectivity as much as possible, and the importance of reciprocity. Network-sampling was used to select the four participants which were a part of this research. The study relied on an introductory observation visit, two semistructured in-depth interviews for each participant, field notes, and teachers' own written reflections as data sources. Content-analysis was used to review the data for themes related to the research questions. Criteria for the inquiry focused on its credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985; Marshall & Rossman, 1989). When reviewing the study, several limitations were apparent. These were presented in the final section of the chapter.

CHAPTER FOUR: RESEARCH RESULTS

Organization

This chapter describes the results of my research. It is organized according to various themes which emerged from the data. Each section starts off with an introduction. Subsequently, individual participants discuss their point of view in relationship to each theme. Since three of the four participants are not familiar with the eighth intelligence, they only refer to the seven which they use in their practice. Direct quotes from the data are written in the tense in which participants originally spoke or wrote in order to preserve the authenticity of their voices. Moreover, when referring to a student in the singular sense, he, rather than he or she, is used in the text for the sake of fluidity. Each part ends in a summary which relates the subthemes that surface in the discussions.

Introducing the Participants and Their Teaching Perspectives

The following section introduces each of the four participants who are part of this research, in first-name alphabetical order. First we meet them in action in their classrooms. Subsequently, they relate how they became acquainted with Multiple Intelligences (MI). In addition, participants share how they view themselves as learners, in relationship to the theory, and how it has influenced them as teachers. Finally, they recommend resources which they find helpful in implementing MI. As the participants are introduced, their teaching perspectives begin to emerge.

Andrea

Allow me to take you to Andrea's Special Education classroom where we met several months ago, when I came for an observation visit. Her room was a cheerful place to be, with four round tables surrounded by chairs and a computer area off to the side. The walls consisted of large partitions that were open on top, a reminder of the time when the

entire school used to be an open concept school. What caught my attention immediately was a bulletin board entitled "Seven Ways of Thinking." In the centre was a picture of a child's head. A portion of it had been divided into seven different parts, like a jigsaw puzzle. Thin black strips of paper connected these parts to logos and corresponding names of each of the intelligences.

That day, I observed Andrea do a hands-on spelling activity which emphasized different word patterns and initial consonants. She worked with two Grade 5 girls, who had not been formally identified as yet. What struck me was the rapport there was between Andrea and her students, her supportive and caring way in dealing with them, and her ability to stimulate the students' critical thinking. Ironically, Andrea had told me ahead of time that this would not be a Multiple Intelligences lesson. However, after some reflection, I identified her use of six different intelligences during the lesson. I found it quite interesting how this teacher could intuitively incorporate so many intelligences into one lesson.

A 3-day summer workshop, based on the theme "It's not how smart you are, it is how you are smart," was Andrea's first introduction to Gardner's Multiple Intelligences. She stated, "Seeing this in large, block letters on a bulletin board made...my staff [and I] really begin to think about how the seven intelligences could support our students with their learning." After attending this workshop by Carolyn Chapman, Andrea felt like she had a grasp on MI theory and was ready to plunge ahead in her classroom. She also learned a lot about the MIs from a local Learning Centre run by her school board.

Andrea told me that she had used MI theory a number of years ago, for a period of 2 years, as a regular classroom teacher. The first year was more like an introductory year for her; however, in the second year, she used it much more extensively. Because of a change in her career from regular classroom teacher to Special Education Resource Teacher (SERT), she stopped consciously using MI. Naturally, this career transition

involved a learning process. Initially, she concentrated more on working one-on-one with the teachers and finding out how they best worked with their students.

After the interviews, Andrea reflected,

> Over the past few months, I have been given the opportunity to "revisit" Gardner and his Multiple Intelligences. In participating in the interviews with Alice, I started to think about how I could use MI in my role as a SERT. What I discovered was reassuring in that a lot of the interventions I have been using are multisensory in nature and most importantly help build...[students'] self-esteem....So, I do feel good about the programs I am providing, even if...[they are] a kind of "quasi" Gardner type program.

Upon reflection, Andrea felt that her biggest strength was her logical-mathematical intelligence, followed by the verbal-linguistic, interpersonal, and intrapersonal intelligence. Particularly, the logical-mathematical intelligence was her strength in teaching. She loved teaching math and using tricks and games which involved the logical-mathematical, visual-spatial, bodily-kinesthetic, interpersonal, and musical-rhythmic intelligences. MI theory helped Andrea think beyond her own way of learning when planning lessons or units.

Andrea found various resources to be helpful in implementing the theory. Carolyn Chapman's (1993) book, If The Shoe Fits...: How to Develop Multiple Intelligences in the Classroom, was seen as beneficial, since it laid out what each MI was. "It talks about Gardner, and then it talks about how you can create and implement [lessons] in the class room. It's very straightforward.... It's a great book." Some programs she used, which helped build up reading skills and incorporated various intelligences besides the verbal linguistic, were Making Words by Patricia Cunningham and Dorothy P. Hall (1994) and Spelling Through Phonics by Marlene J. McCracken and Robert A. McCracken (1996). She felt these authors made particularly strong use of the combination of verbal-

linguistic, visual-spatial, and bodily-kinesthetic intelligences. The next place she hoped to look for information on Multiple Intelligences was the Internet.

Bev

Please continue to accompany me on my observation visit to Bev and her Grade 6 class. As the students entered her classroom and looked at the brief lesson plan on the blackboard, an atmosphere of curiosity and puzzling excitement prevailed. "Peanuts?" they exclaimed in disbelief. "We have to write a lost-and-found article about peanuts?" From overhearing students' conversations, it was quite obvious that they had already been hooked into the Multiple Intelligences lesson before it even started.

Bev's large classroom had many glass windows which overlooked the hallways and gave it a very spacious impression. Students' desks were arranged in six groups of six. During my observation visit, Bev's role was that of a regular language arts classroom teacher. Her 16 students soon found their way to their desks. Five students had been formally identified in her class; two had a behavioural disorder, two had a learning disability, and one was gifted.

In a unique way, Bev drew her students into using their linguistic intelligence. After discussing the intelligences they would be using during the lesson, Bev captivated her students' attention by sharing a story from her own experience. This anecdote set the stage for the purpose of scientific observation. Shortly after, the students became scientists who observed, drew, and labelled identifying characteristics of a peanut which they had each received. This information provided a scaffold for them to write a short lost-and-found article for their peanut. At the end, all peanuts were put together on a table and classmates identified each others' lost peanut using the lost-and-found article.

What struck me was Bev's organization and detailed attention to developing a multimodal lesson, one which incorporated many layers of intelligences into one lesson. As well, her intentional modelling of each step in the process stood out. Every act on her

part appeared to be deliberately done. In follow-up conversations, it became clear that she was indeed aware of the distinct purpose of every facet of the lesson.

A number of years ago, Bev was hired at a new school which was being set up around Multiple Intelligences theory. She received a fair amount of in-servicing about the theory and did a lot of reading. As a result, she became aware that the kinds of things teachers did actually had a theory for them, called MI. Bev formally worked with MI for 6 years as a Special Education resource teacher as well as a regular classroom teacher.

Reflecting back on her past experiences, Bev wrote,

> Multiple Intelligences theory opened tremendous possibilities to me as a classroom teacher and a Special Education resource teacher. Most of what Gardner [proposed has] always made perfect sense to me. I knew that those children that struggled had potential. The dilemma was how to reach and teach to the child. Once I had the frame work from the intelligence theory,...print resources, and in-servicing, I could take much of what I was already doing...[and] consciously use teaching strategies, experiences, and products to daily meet and reach the intelligences, so that every day my students would have an opportunity to work in their cluster of intelligences.

Bev's MI strengths were in the verbal-linguistic, visual-spatial, interpersonal, and bodily-kinesthetic areas. Therefore, in her lessons, she incorporated a lot of talking, reading, and writing, as well as all types of graphic organizers (e.g., diagrams and flow charts). Moreover, she often used cooperative group lessons and drama. She frequently had students construct products which combined the bodily-kinesthetic and visual-spatial intelligences as well. Yet, Bev asserted, "I had to recognize that I would use my preferred intelligences most often, unless I consciously forced myself to explore the other intelligences and ways in which I could incorporate them into the day, week, or unit."

During the interviews, Bev mentioned several helpful resources in implementing MI Theory. It was her experience that running school-wide units which teachers put together as a team was very beneficial. Moreover, having one classroom designated as an

exploration lab or an MI room, in which theme centres were set up and colour-coded according to the intelligence and grade level (e.g., primary, junior, or intermediate), proved to be a valuable asset to the teacher in implementing MI. Within their day, teachers could book a time to work with their class in the MI room on the school-wide theme.

Bev recommended several books, including Seven Ways of Teaching and Seven Ways of Knowing by David Lazear (1991), The Multiple Intelligences Handbook: Lesson Plans and More... by Bruce Campbell (1994), and Integrating Curricula with Multiple Intelligences: Teams, Themes, & Threads by Robin Fogarty and Judy Stoehr (1995). Moreover, she also suggested reading other books written by these authors. As well, Bev found that IRI/Skylight Publishing had many helpful resources on MI. Furthermore, the ASCD or Association for Curriculum and Staff Development had recently put out a new CD and book on Multiple Intelligences. Other good resources were the Internet and speaking with and visiting other teachers who were using MI. Attending workshops was another way of obtaining valuable information regarding Multiple Intelligences.

Bev found Multiple Intelligences a wonderful theory to work with, because once you knew what each of the intelligences looked like, you could easily pick up strategies from the above mentioned sources. It was interesting to note that she had created a database for herself for each of the intelligences. As Bev saw a strategy and thought about a product, she mentally placed it under an umbrella, entering it in her computer, so she would not forget about it. Thus, she felt that there were many ways and resources to learn more about the theory and its effective implementation.

John

Allow me to introduce you to John, who works with many disadvantaged children, as a regular Grade 5 classroom teacher. Approximately half of his class were said to be a year or more below grade level; three students had been formally identified as learning

disabled. As I entered his room which displayed a lot of his students' work, my eye was caught by a 7-foot coconut tree close to his desk. It reminded me of sunny days and happiness, and almost seemed symbolic of what he was trying to accomplish with his 28 students, bringing a ray of sunshine into their lives.

In a lesson designed to help students remember the six steps of the scientific method, John appealed to the students' imagination in a dramatic way. As they closed their eyes, he "transformed" them into an Indian tribe called the Chickenhawks, who had a secret from the gods that everyone wanted to find out, the secret to the scientific method. While slipping a construction paper headdress on his head, he told his students, "And when you open your eyes, I will have turned into your chief, Chief Chickenlegs." Chuckles could be heard when students finally did open their eyes.

John's talent in drama was apparent throughout the activities that were part of the lesson. With much gusto, he taught his students an Indian greeting and gesture. As he pounded his fist on his chest and flung it back in the air, he shouted, "Yogando!" Equally enthusiastic, the students answered his salute. Throughout the lesson, he used this as a signal to capture their attention for the next activity. Subsequently, students thought of an Indian name for themselves. They wrote this on the front of their own simple headdress which they quickly put together. John had created six lines to help them remember each of the steps of the scientific method, as well as their function (e.g., Material: These are the magic tools we use for our experiment). After modelling an example, he had students form different groups, who had to think of a magic word and movement to go with each line. These would serve as mnemonic links for each of the steps and their function. Toward the end of the lesson, each group made their presentation. Standing on a desk, John modelled how they would pretend to shoot off happy arrows as a sign of applause after each presentation. Finally, he had the students repeat the steps of the scientific method with their matching lines using different voice pitches and speeds.

What really struck me was John's enthusiasm. All students were completely caught up in the lesson. Although it involved a lot of activities that had the potential for misbehaviour, it was apparent that students knew very well who was in charge and what was expected of them. Moreover, students' spontaneity and enjoyment of the lesson, seemed to trigger John's creative abilities. At times, the lesson appeared to spontaneously unfold. No doubt, John had a knack for making school a happy place to be.

During our subsequent interviews, John recounted how he had first learned about Multiple Intelligences when he applied to a new school which was specifically being designed to implement and develop MI theory. Although he did not know anything about Multiple Intelligences when he started, the goal he had in mind, when applying to this school, was to become a better teacher. John reflected,

> So I worked with people that wanted to be better teachers. If you have...that as a precept of why you are here, then I think you are going to end up doing all sorts of things that are better. If you are just going to be territorial in your classroom, than you'll be safe, but will you be better? I don't know. I don't think so.

As a regular classroom teacher, John had worked with MI for 6 years now. He believed that it had turned his whole teaching career around. He particularly felt that using MI was a creative activity which was why it was so appealing to him. He asserted,

> It opens up a whole area...not just for the student, but for the teacher in terms of making learning exciting....It [also] makes teaching much more enjoyable. To me, it's selfish, in a way....Just as we say to the kids, if you try anything in a different sort of way, it's going to make you better....What we are trying to do...[is] avoid making [teaching and learning] predictable, because when it's predictable, [the students] are going to shut down a lot more easily....That's why I really like the Multiple Intelligences, because it is the vehicle for maximizing learning,....[and] in fact,...it rejuvenates you as a teacher, because *you* are feeling successful.

John mentioned various resources which were helpful in implementing MI. As far as books were concerned, he recommended Seven Ways of Teaching and Seven Ways of Knowing by David Lazear (1991), If the Shoe Fits...:How to Develop Multiple Intelligences in the Classroom by Carolyn Chapman (1993), and Multiple Intelligences in the Classroom by Thomas Armstrong (1994). He felt these books were very reader-friendly. Moreover, John considered team-planning to be helpful as well. Teachers with different strengths could trade ideas. Furthermore, he also deemed team teaching to be an important resource. John suggested that you or your partner assume a leadership role with the implementation of a lesson. In that way, different types of lessons were modelled for you and your teaching partner. This was a staff development project John was currently working on as an MI coach. He now worked at a different school than where he had first started using MI and was eager to share his learning experiences with others in order to make a difference for kids.

Robin

Our final visit is with Robin. As we walk through the door of her Grade 2 classroom, a very large silhouette of a child's head immediately catches our attention. A part of it had been divided into sections which named each of the intelligences or "smarts" (e.g., interpersonal intelligence/people smart; visual-spatial intelligence/picture smart, etc.). Next to this special silhouette, various colourful and creative graphs portrayed the intelligence profile of the class. Body smart outnumbered them all. In another area, seven pictures of suitcases displayed identifying characteristics of each intelligence. Below each one was a list of corresponding careers one might have if that particular intelligence was your strength. The classroom was filled with many other interesting things.

Students' desks were arranged in groups of four. Toward the centre and back of the room, there was a big grey carpet. A rocking chair with pillows stood invitingly in a

corner. At another corner of the carpet, there was an easel with a story waiting just for me. It was entitled "Hello dear Alice Hamstra." What a special welcome!

Eighteen students soon formed a big circle on the rug. Three had been formally identified with learning disabilities, while four others also received resource support, but had not been identified as yet. As part of their opening exercises, students read their class letter to me. Subsequently, they had some time to read at their desks, with a partner or on their own. In the meantime, their teacher read with a small group around her rocking chair.

Next on the agenda was the Multiple Intelligences math lesson. All students gathered in a big circle around Robin's rocking chair. In the centre of the circle she had laid two hoops. The lesson aimed to explore how Venn Diagrams were used. She first reviewed the previous math lesson and then introduced students to the new concept. Robin explained that they would use the Venn circles to help them build up things that were the same and different about one of their peers and their teacher. Subsequently, students were given the opportunity to ask the "Special Me" student and the teacher various questions (e.g., Do you have a pet? How many brothers do you have?). Robin wrote the answers on yellow sticky notes, using a different coloured marker for her answers and those of the student. These were placed in the appropriate areas of the Venn Diagrams. After discussing with the class which "smarts" they had used to take in and build up information, students did a similar activity at their desks with a partner.

What struck me was how Robin organically built up a "community of learners." It soon became clear to me that "Caring and Sharing," which was displayed in large letters on one of her walls, was part of her teaching philosophy. Not only was it evident that she had promoted this atmosphere amongst her Grade 2 students, she had also found ways to extend the community of learners beyond her classroom walls. Regularly, groups of student teachers from a neighbouring university came to visit her and her class to learn more about Multiple Intelligences. From our conversations, it appeared that she was

instrumental in numerous ways in promoting the community of learners around Multiple Intelligences theory.

Robin described herself as an avid reader. She had done "incredible amounts of reading on brain functioning, on thinking, and on the mind," since those were topics which had always fascinated her. When research information began to become available from Gardner and his cohorts, she read everything she could get her hands on. As a result of her readings, she began to incorporate MI theory into her teaching.

Robin also attended a summer workshop by Carolyn Chapman which had been arranged by her school board and served as a wonderful catalyst to what she was already doing in her classroom. At first, Robin's reading had been concentrated on theory and research. However, as a result of the workshop, her reading took on a different focus, that of implementation within the classroom setting.

Being supported by her administration to use MI was a very positive and powerful thing for Robin, since it allowed her to work the way that she worked best in the classroom. She explained:

> Because if you have the freedom, if you know that *you* can make mistakes, you can dive in, you can take risks....That's a wonderful way to learn....That's the way the children in this classroom learn [too]. That's the way I learn best.

Robin had built MI theory into her teaching step-by-step over the last 7 years in a way that made sense to her. What she found fascinating was that she became good at figuring out students' strengths rather quickly. As well, she found it very exciting to work on areas that were underdeveloped in particular students and begin to see change. She asserted, "That's when you make parents, as well as students, believers of the fact that there are many ways to learn, and you know that it works...[MI] really enhances [and] changes learning dramatically."

Out of this whole experience of working with MI, Robin claimed that she also had really changed. She said, "It's just made me become so much more aware of the

techniques and the way I am presenting information or ideas. I am so much more aware of how to hook in to individual kids as well."

During our interviews, Robin pointed out several helpful resources to implement MI. She found Carolyn Chapman's book, If the Shoe Fits...:How to Develop Multiple Intelligences in the Classroom (1993), to be an interesting approach, since it related all the intelligences in some way to different types of shoes. Although Robin had used the shoe analogy when she first started implementing the theory, she did not use it anymore, since she felt it was not relevant enough for primary students. Furthermore, she recommended David Lazear's (1991) books, Seven Ways of Teaching and Seven Ways of Knowing. Obviously, besides these resources, there were yet many others.

Summary

We have met four caring teachers, who each used Multiple Intelligences in their own way. The length of time they worked with the theory ranged from 2-7 years. Their introduction to Multiple Intelligences appeared to have brought about a positive change in their practice. For each of them, its implementation involved a learning process. To successfully put the theory into practice, the teachers recommended forming a variety of partnerships. They also suggested a number of helpful print-resources.

Perspectives of Exceptional Students

In the following section, the teachers discuss their perspectives regarding exceptional students.

Andrea

Andrea observed that especially when teachers looked at a child with a learning disability, they tended see the weakness before they saw their strengths. "We say, 'This child can't read.' How are we going to solve this problem?" She asserted that the

tendency of many teachers was to dwell on the weakness, rather than to look at what the student was strong in and reflect on how this strength might help him (e.g., to learn to read). However, Andrea contended that if you just focused in on their disability, you might not give that student the opportunity to grow in another direction. "So you really have to *look* for strengths in those kids," she emphasized. Nevertheless, Andrea believed that when working with a child with a learning disability, you did have to keep their weakness in mind, even though you were going to concentrate on pushing their strengths.

Andrea maintained that students with a learning disability often showed weaknesses in the classic areas in which most teachers were so strong, the verbal-linguistic and logical-mathematical. However, she perceived them to be "all very intelligent little kids. They often have a vast general knowledge. Frequently, they are very verbal, yet they have difficulty [reading and writing]." Moreover, for a lot of learning disabled students with whom Andrea had come in contact, the visual-spatial intelligence was often a strength for them. As well, she found many of them to have strong interpersonal skills. Andrea explained, "They are the group leaders and it is not a risk for them."

Bev

In many ways, Bev's perspective of exceptional students was similar to Andrea's. Particularly, when writing up Individual Education Plans, in her role as a Special Education Resource Teacher, she did need to keep a student's weakness in mind. She claimed that it was usually obvious that a large portion of exceptional children had difficulties with the verbal-linguistic and to a certain extent with the logical-mathematical. Moreover, Bev asserted that they ordinarily also had difficulty in the area of the intrapersonal intelligence on account of their impetuousity. She contended that these areas would probably never be as well developed as some of the other intelligences, since, in comparison, they had a long way to grow.

Although Bev acknowledged that exceptional students had difficulties in certain areas, she did not view them as learning disabled or learning deficit, but as "learning different." She maintained that using MI theory, one's focus shifted to definite strengths the student had in other areas. Bev found that most of the exceptional students she had observed over the years were almost always bodily-kinesthetic, often visual-spatial, and often very musical. Besides, she often experienced them to be interpersonal, because they usually worked well in cooperative groups. She had also often noticed that they had the naturalist intelligence, since a lot of them liked the outdoors.

Bev believed that sometimes teachers disabled a child because of the way they programmed; frequently the tremendous potential of exceptional students was not being tapped into. She felt it was time for teachers to revamp their view of exceptional students and deliberately look at their potentials. Knowing that there were eight different ways to reach these students, and finding out within your teaching what you had to change, what you were going to offer them, and how you were going to evaluate them, were key areas, that if properly attended to, would enable exceptional students to experience more success in learning.

John

For John, as a regular classroom teacher, using MI theory had a powerful impact on the change which could be observed in the typical exceptional student. He felt that the obvious result of only presenting exceptional students with all kinds of verbal-linguistic activities was that you would "lose them." Consequently, they would end up being stereotyped as behavioural problems, etc. In contrast, since MI made learning fun and relevant, it changed the atmosphere in the classroom.

> So "exceptional" becomes blurred in that context. That is what I find so appealing about it, because all of a sudden we are all equals in the way we approach things. Because we are doing things differently,...[all students will find they have strengths in

some areas and not in others].

Thus, he no longer viewed exceptional students as learning disabled, but as "learning differently."

The idea that exceptionalities became blurred, when incorporating MI into your teaching, was also strongly sensed during the observation visit, as well as during a member check visit when I casually observed students at recess time preparing for a presentation. All students were actively and enthusiastically engaged in the learning process. John pointed out one student in particular who in the past was known to throw desks around and swear at teachers. This child now participated in the activities in a civil manner. John recounted that he had never had that trouble with him. He felt it was because in his class, the focus was on this child's strengths which made him feel like a valued, contributing member of the class.

Robin

Robin held a view similar to John's, regarding the blurring of exceptionalities when using the MI approach. According to her, "exceptional students are created by educational systems that assume that intelligence is a single entity and that intelligence can be measured by a single paper and pencil instrument." Instead of viewing an exceptionality as a disability, delay, or deficit, Robin viewed it as "a uniqueness to that particular child's way of learning." As a result of using MI extensively, she felt that all students became exceptional, in the sense of having a talent and having something to offer to the community of learners. This differs from the traditional connotation of exceptional which has been used to identify students who have something which is missing, wrong, or an incredible, phenomenal gift. She maintained, "There is always *something* going on that is pretty wonderful."

Summary

Within the context of the Multiple Intelligences classroom, each teacher appeared to view exceptional students in a unique way, however, similarities were also apparent. Both Andrea and Bev acknowledged weaknesses in the areas of the verbal-linguistic and logical-mathematical intelligences, whereas for John and Robin, it seemed that "exceptionalities" became a translucent phenomenon within the context of the Multiple Intelligences classroom. Overall, each teacher tended to see these children as "whole persons," having definite areas of strength. Finally, instead of regarding exceptional students as learning disabled, they generally viewed them as "learning different."

Enhancing Exceptional Students' Self-Esteem

In the following section, participant teachers discuss the implications of Multiple Intelligences Theory for exceptional students' self-esteem.

Andrea

With Clemes & Bean (1990), Andrea believed that "self-esteem is the basis for positive growth in human relations, learning, creativity, and personal responsibility" (p. 3). Furthermore, she asserted that "without a positive self-esteem, the likelihood for an LD child to learn isn't that great." In fact, the danger could be that he regressed. Therefore, Andrea postulated,

> The first thing you should do with an LD child is build their self-esteem. That's not always going to build that skill that you are trying to build right now. What you are trying to do is go back and see what they *can* do, make them feel good about...[that] and then...work on their weakness.

Andrea believed that finding out their MI strength helped all students, and particularly students with learning disabilities, to become better learners. She contended, "Finding their strengths,...focusing on their abilities, and believing that they can be a success are all

necessary in order to build their confidence and help them feel capable." Using this approach, they invariably would be more willing to work on their weaker areas.

Bev

Bev believed that using MI theory was beneficial for exceptional students' self-esteem, since they learned to know the areas in which they were good, in addition to the areas where they needed to grow. Moreover, as a teacher and class, you valued all the intelligences, not just the verbal-linguistic and the logical-mathematical. Consequently, exceptional students' strengths were recognized and appreciated as well. How they were strong started to be the way they thought about themselves. According to Bev, this led to a much healthier self-esteem and attitude towards learning.

In a little anecdote, Bev illustrated how Multiple Intelligences affected students' self-esteem, enabling students to look at themselves and others in a new way.

> I have just given instructions to the class that they need to form groups of six to make up a team that will investigate ecosystems together....At the end of the unit, they will work on a project that will demonstrate their knowledge and skills. Their team must have representation from each...intelligence, so that together the team is represented by all the intelligences. The students have already developed a profile for themselves, and so students start the process of using their profiles to build teams. In the distance, you can overhear someone say that they are mostly Visual Spatial and are really good at maps and sketching, but they are not very Verbal Linguistic and so are not that good at writing. The other person replies that they like to write and hope that they can use their Musical Intelligence [as well] in some way. Every student is confident that they have something unique to contribute to the group.

Obviously, this anecdote reveals the positive impact MI has on the ways students view themselves and others.

John

John believed that Multiple Intelligences theory was beneficial for students' self-esteem, since it highlighted strengths that normally would not be as readily discovered because of the verbal-linguistic approach. John asserted:

> Again, it comes down to why Multiple Intelligences to me is so important. It's because you are going to have kids that don't feel good about themselves. And you have to provide a program and strategies that are going to make them feel successful. It's going to be easier when you have the kind of help that would make it more successful, [such as MI theory]....And I am telling you for a fact that if you throw all kinds of verbal-linguistic things at kids all day long...which good teachers won't do anyway, you are going to lose a lot of kids.

Robin

Robin felt that using Multiple Intelligences theory explicitly provided an opportunity for her to openly acknowledge an exceptional student's strength, who, for example, was struggling in reading. It allowed her to point out that this student was exceptional, in the sense of having a talent, instead of having something wrong or missing. Viewed like this, the student as well as his classmates began to realize that he was indeed exceptional in the positive sense, and that he was able to share his talent with other people. As a result, he gained confidence and became a risk taker. According to Robin, this was step number 1 in helping an exceptional student learn. By exploiting his strength and building up his confidence, he could eventually learn to use his strengths to help him make a change in his learning.

Summary

Teachers found that exceptional students often had a low self-esteem. In order for the student to make any type of progress in learning, this was an issue that first needed to be

dealt with. Using the MI approach, the focus was on the student's abilities. By making him aware of his strengths, valuing these, and providing opportunities to learn through these strengths, he gained confidence. Consequently, he was more willing to take risks and work on his weaker areas.

Planning an Inclusive Approach

Current trends in education are moving towards inclusive classrooms. In Ontario, with the implementation of the Education Amendment Act, popularly known as "Bill 82," exceptional children receive more instruction within the regular classroom setting (Weber, 1993). Given the challenge of improving instruction in order to reach all students, Multiple Intelligence theory becomes a means to achieve inclusion, since it provides a framework with eight different options that facilitates the planning of an inclusive approach. Three of the participant teachers discussed how and why they used Multiple Intelligences theory in planning an inclusive approach.

John

John asserted that

> if you buy into Multiple Intelligences theory, which I feel you have to in order to have some credibility for what you are doing, then you are always planning and assessing what you are doing...within the context of whether it will be receptive for all students...in terms of how they are learning.

He felt that if you consciously planned to use other intelligences besides the verbal-linguistic, when laying out your units or weekly plans, the chances that you would be more successful in reaching all students were greatly increased.

When planning units, you first came up with the big question or expectations and the lessons you intended to get into. Subsequently, you considered the pedagogical approach:

How could you use MI theory in the best and most successful ways to implement the lessons, keeping it manageable? Finally, how were you going to assess the learning?

John explained that there were various ways you could go about planning for implementation, using MI theory. One way would be to identify the intelligences that you wanted to focus on (e.g., the musical-rhythmic and bodily-kinesthetic) and plan to "awaken" these early on within the lesson. As the lesson progressed you "amplified" or worked on developing these intelligences further, "so that the lesson can be assimilated successfully. The objective of the lesson can then be 'transferred' and applied in a different context in a meaningful fashion."

When I observed John's class, the bodily-kinesthetic and musical-rhythmic intelligences were the two he emphasized in a lesson designed to help students remember the six steps of the scientific method and their function. To awaken the bodily-kinesthetic intelligence, John stood on a chair in front of the classroom and played Simon Says for a few minutes in a very dynamic and enthusiastic way. Subsequently, he told the class that they were going to awaken their bodily-kinesthetic and musical-rhythmic intelligences. After retrieving his guitar, he began to sing a song. Students spontaneously joined in and used the body movements that went with the song. Although five other intelligences were included in the lesson as well, these two were "amplified" or emphasized as the lesson dramatically unfolded.

John also explained another way he was using MI in planning. When considering specific lessons for the following week, he would look at the lessons he was doing and make up a cross-classification chart of the different ways of presenting a particular concept to be taught, something which David Lazear (1991a) suggested. During our discussion, John showed me an example of how he planned to teach students the different land and water forms, such as the lowlands, plains, bay, etc. He had made up a cross-classification chart as follows:

Land/Water forms

Verbal-Linguistic	Bodily-Kinesthetic	Visual-Spatial	Intra-personal	Inter-personal	Logical-Mathematical	Musical-Rhythmic
Password	Forming Shapes	Quick Sketch	Visualization	Charades	Bingo	Songs

Students had already coloured and cut out pictures of various land and water forms and glued these along with the matching names on a piece of construction paper (e.g., they had placed a picture of a bay underneath the wo:d bay). John planned to use a number of the strategies on his cross-classification sheet to reinforce these concepts. The following are brief descriptions of the different activities:

1. *Verbal-linguistic activity*: Partners would play "Password." Student A would give student B one-word clues about a land or water form. Student B would have to try to guess which one Student A had in mind.
2. *Bodily-kinesthetic activity*: In gym, John would have groups form the shape of different land and water forms with their bodies.
3. *Visual-spatial activity*: John would call out a land or water form, (e.g., bay), and the students would have to make a quick sketch.
4. *Intrapersonal activity*: John would say a term and the students would have to visualize it in their minds.
5. *Interpersonal activity:* Students would play charades.
6. *Logical-mathematical activity:* Students would make up their own Bingo card. First they needed to draw boxes on their page and write each different concept in one of the squares, in any order they wished. Then they could play Bingo as a class.
7. *Musical-rhythmic activity:* The class would sing songs that were associated with mountains, plains, rivers, etc. (e.g., Country Roads, This Land is Your Land).

Thus, when planning the lesson, John had several options on the cross-classification sheet to choose from. He felt that if you did this at least once every week, you got better at planning and using different approaches to various lessons.

Moreover, when planning, John asserted that you could also consider the needs of an individual student, by ensuring that you were using an intelligence that was applicable to a particular person, in order to maximize their learning.

As far as planning for assessment was concerned, John explained that besides the regular pencil and paper assessments, the teacher encouraged students to come up with "celebrations" or final products. Students chose different intelligences as a way of conveying what they had learned, for example, regarding the key question of the unit. In addition, John felt that it was also important to plan to have students reflect on what they had done, whether they had enjoyed using particular intelligences, and whether the activity had helped them learn. He contended that this way, students did not get the impression that the lesson was just "fun and games." Specifically, he found personal journals very helpful in terms of getting students to reflect on what, how, and why they had learned. John believed that using these helped the teacher as well as the student learn about their particular strengths. Moreover, he asserted that through journal writing students learned to understand the risk taking they took. Although they had perhaps tried something in an area in which they did not feel strong, when reflecting on how they had done, students often realized it had not been so difficult after all.

John believed that although it might not work all the time, the probability that students would learn more using an approach that appealed to their intelligence strengths was greater than when you just stood in front of the classroom and lectured, since the content had more relevance for them in terms of the way they learned. In addition, it helped you capture their attention, so that students were focused on what you were trying to teach them, instead of tuning you out. Moreover, using this inclusive approach in planning made teaching exciting, because it enabled you to motivate students, so that they felt excited about what they were learning. As a result, John felt that you could assume and document that what they needed to learn would be learned more readily and retained over time.

Andrea

In the past, when Andrea had planned as a regular classroom teacher, she found it beneficial to extend MI strategies that promoted exceptional students' learning to the entire class. She reflected,

> [for] "my monthly book reports, instead of just offering a sheet to fill out on the character sketches,...I would offer something from the 7 MIs....They could present their book report as an oral presentation,...[as a] dance interpreting the book, or some part of the book, [or] they could do a diorama and build the set of the book, [etc.]. Everything was presented to them and then they could choose what they felt would be the best [way] for them to complete a book report.

Andrea also based her centres on some or all of the intelligences. Quite often they offered three different choices, the verbal-linguistic, visual-spatial, and bodily kinesthetic.

Andrea asserted that using MI in planning naturally lent itself to providing students with various options. As a result, children could choose to work in an area in which they were comfortable, which was usually their strength. She felt this was especially beneficial for the exceptional child, since they could do something they were good at. Thus it promoted the involvement of all students. Furthermore, exceptional students did not feel like they were being zeroed in on, because of their exceptionality. Instead, it made them feel more included. Moreover, doing an activity using an intelligence other than the verbal-linguistic allowed students to show their understanding of what they were learning in their own way. As well, Andrea felt that an added bonus was that "you get the 'aha's' from the other kids at the same time," since perhaps they would have never thought of what they were learning from that particular point of view.

According to Andrea, planning to use rubrics allowed for easy evaluation. Although "it takes time to set up the centres and rubrics,...once it [is] all in place, it [affords teachers] time to work with the students who [need] some support."

Bev

In discussing Bev's approach to planning, it became clear that her view was based on the broader concepts of MI theory and that of inclusion. She believed that every child in a community school belonged in the regular classroom. The only way that we as educators could meet the diversity of the children was if we took a much wider look at the potential of the students we were dealing with. By neglecting to tap into the potential of exceptional students, we lost their contributions, and limited their opportunities. "I guess, it's almost like disenfranchising a large portion of your classroom," she stated. Moreover, Bev contended that information on brain research told us that as teachers we had to do something differently. She felt that using MI theory resulted in a paradigm shift, or shift in thinking, since it entailed deliberate planning in order to make a difference for children.

When planning a unit, Bev first went to the expectations to make sure that she knew the particular knowledges and skills which needed to be covered. She then brainstormed activities which included all of the intelligences, so that exceptional students could learn those knowledges and skills as well. This approach to planning made a significant difference for exceptional students, because there would be times during each day when they would shine, since you planned activities that tapped into the area of their intelligence strengths as well.

Because Bev worked in an inclusive way, she gave students opportunities in producing a product in the intelligence area of their strength. Using what a student knew about his strengths, he could choose from a list of ways to show, for example, the information that he had researched. Bev felt that to expect exceptional students to use a paper and pencil to show what they had learned could limit them. They might have known the answer, but you could not have given them credit for knowing it, since you had not given them the opportunity to show what they had learned in a way that they could express it. Finally, Bev asserted that when *everyone* had a choice, the exceptional student, who was, for

example, bodily-kinesthetic did not stand out by choosing an activity that was natural for him. Therefore, choice was a key component of an inclusive program.

Summary

Three of the teachers related how Multiple Intelligences assisted them in planning in order to include all students. A variety of inclusive planning techniques were described in which they used MI for units, centres, weekly plans, individual lessons, research projects, and assessments. Given the framework of the theory, the teachers asserted that they could plan for inclusion much more deliberately than without a knowledge of Multiple Intelligences. The key seemed to be to tap into the potentials of the students, based on their profiles. Frequently, this entailed looking beyond the verbal-linguistic intelligence. When planning for assessment, Multiple Intelligences lent itself to providing students with various options to show their learning. It was pointed out that the traditional pencil and paper assessments often limited students with learning disabilities in expressing what they knew.

Developing Students' Metacognition

Observing the participant teachers in action in their classrooms was an enlightening experience. What immediately struck me, as I visited three of the classrooms, was that the teachers used Multiple Intelligences theory explicitly to develop students' metacognition. Although one of the teachers did not use a metacognitive approach to MI when I visited her, during the interviews it became clear that she had formerly done so. A few decades ago, Flavell (1976) coined the term "metacognition" to refer to "one's knowledge concerning one's own cognitive processes and products of anything related to them, e.g., the learning-relevant properties of information or data" (p. 232). Specifically, students' metacognition had been cultivated as it pertained to their knowledge of the overall framework of Multiple Intelligences theory and their awareness of how they fit

into this framework as learners (e.g., what their strengths were). As well, students were either made aware of, or were stimulated to reflect on, the MI strategies which the teacher and they themselves engaged in during the lesson. This helped them understand how they were taking in and processing the information. For example, at the end of a math lesson which explored the use of Venn Diagrams, Robin asked her Grade 2 students, "What did we do? What "smarts" [or intelligences] did we use? Can you explain why you think we used that smart?" Building up students' metacognitive awareness, particularly as it related to Multiple Intelligences theory, appeared to be an ongoing process.

During the interviews, as well as in teachers' written reflections, it was apparent that the participants had introduced Multiple Intelligences theory to their students in various ways. The following data will serve to illustrate how and why the four teachers introduced MI theory to their students using a metacognitive approach.

Andrea

Andrea felt it was important for her students to understand: "It's not how smart you are, but how are you smart?" As part of a school-wide unit, the staff had introduced MI theory by means of a fashion show. Individual staff members modelled a student engaged in each of the intelligences (e.g., to present the intrapersonal intelligence, a staff member dressed as "Raggedy Ann" was completely absorbed in reflective journal writing). These amusing concrete examples helped students relate to and remember the different intelligences. In her classroom, Andrea also displayed the different intelligences on a bulletin board to provide a visual reference. Follow-up class discussions enhanced students' understanding of the different components of the theory.

From there on, student profile building began in earnest. Teacher check lists and observations along with student self-analysis, surveys, and questionnaires served to help the teacher as well as the pupil understand his areas of strength.

Andrea asserted that

> the advantage...[of making Multiple Intelligences explicit to exceptional students is that they] become aware of *how* they *learn*. It is important for them to understand that we all learn differently and at different paces, and that we are smart in different ways, and we have strengths and weaknesses in what we will do. To help the exceptional child, is to find out what their strength is and work with that....It also helps build their self-esteem with them knowing where their strengths are and how to use them to their best abilities.

Moreover, Andrea felt that MI provided a concrete framework for students to reflect on others' strengths as well, (e.g., through engaging students in a Multiple Intelligences People Search). She explained that a result of students' reflections on their own strengths and those of their peers is that "MI theory...[allows] all children to shine in one or two areas that aren't necessarily the regular classroom fare." Taking a metacognitive approach to MI also provided the opportunity to "kind of pull...[bright students] down to earth" in order for them to become aware of and value other students' strengths as well.

Andrea also believed that using MI theory explicitly in the classroom helped connect exceptional students to the others, making them feel part of the classroom family. She stated, "With the MIs you can see how everyone has a role to play in the classroom." As teachers provided opportunities for all students to shine and use their strengths, students realized that one group was good in this area, another group was good at something else. "But put it all together, and we are all really good." Furthermore, she contended that when students were able to identify with a group which had a particular intelligence strength, they felt respected and important to each another. Consequently, Andrea postulated that they were more likely to take risks and continue to want to be a part of their learning environment.

Bev

Early on in the year, Bev developed her students' metacognitive awareness by setting up game and intelligence centres in her classroom. These were specifically designed for each of the different intelligences. Students went through the various centres and subsequently reflected on the ones they liked and their reasons for doing so. Like in Andrea's classroom, cognitive profile building flowed out of these introductory activities. Bev explained that

> [Besides game and intelligence centres], profiles can be built through inventories or checklists, [and] rubrics. Each technique requires reflection on the part of the student and observation and record keeping on the part of the teacher.

In addition, she also elicited parents' reflections through sending home a little survey to complete about their child.

According to Bev,

> building an MI profile for each student enables the teacher, child, and parent to see areas of strengths as well as areas for growth. The identification of intelligences enables teachers to teach to and through strengths to help each child reach their potential, while the student is able to identify their own areas of strength and need which assist them in knowing themselves as a learner, setting goals, and feeling competent.

Bev asserted that in a classroom where you were teaching, using a metacognitive approach to the intelligences, there was a completely different feel from a classroom where you were teaching in a traditional way. She elaborated,

> For many students this is the first class in which they are able to identify how they are smart and to verbalize it to other students. The confidence and smiles tell you that they feel good about themselves and that their peers acknowledge that they have gifts and talents that they can share with others.

John

John developed a metacognitive approach to Multiple Intelligences theory in yet a different way. Inspired by a song called "Macalena" from Carolyn Chapman's book, If the Shoe Fits, John planned a whole unit around Macalena, an alien creature who visited earth to teach students about the different intelligences. During the first 2 or 3 weeks of school, this unit was implemented.

Subsequently, profile building began. Besides using his own observations and documentation, John had the students reflect on what they thought their intelligence strengths were. He felt it was important to emphasize to students that there were no right or wrong intelligences. As well, using the knowledge they had gained about themselves as learners, John felt it was important to encourage students to work on intelligence areas that they did not feel strong in. He asserted that "if you are weak in one intelligence, or perceived weak in that intelligence,...because you make an effort in that area, you are better than you were before."

According to John, using a metacognitive approach to MI was "a vehicle for inclusion and a catalyst to personal growth."

> [It] promotes respect and sensitivity for individual learning styles and strengths. Students begin to see themselves and others, as possessing commonalities in terms of their various Multiple Intelligences but also as unique individuals who can develop their MI strengths and perhaps more importantly, their MI weakness over time. It is this component that is the key to developing an *inclusive* atmosphere in the classroom, one that welcomes its members as equals on the road to learning.

Robin

Robin believed that it was important for her Grade 2 students as well as their parents to understand Multiple Intelligences-based learning. Consequently, she fostered metacognitive awareness within her classroom community in various ways. Even before

the school year began, Robin sent a letter to the parents and their child accompanied by a current and readable article about MI. This gave parents a mind-set about how she intended to approach the classroom setting. Furthermore, they were asked to complete a questionnaire together regarding the kinds of activities the child liked to engage in, so that already on the first day of school, children were coming with information that would help her understand more about the way in which her students learned best. This is how Robin began to build a cognitive profile for each of her students.

Furthermore, the students were also asked to bring in a "museum box" which was a shoe box with four or five things that were important to them, such as books, trophies, or pictures which told about themselves. Every day, two or three students had the opportunity to share their museum box at which time Robin introduced words like "bodily-kinesthetic intelligence" or "body smart" to discuss the different "smarts" each child might have. Robin explained that this way she planted seeds in students' minds, in order for them to begin to reflect on and identify with particular intelligence strengths.

When all museum boxes had been presented, Robin stimulated the children during a class discussion to think about how they were similar and different from one another. She felt it was important to emphasize that they were all special, having been given varying and different strengths. In her classroom, Robin encouraged her students to celebrate those differences and appreciate them. She asserted that cultivating students' awareness of their own as well as others' strengths laid the foundation for the development of a "community of learners" or cooperative group learning. As a result, exceptional students felt included as part of the class.

Besides celebrating verbal-linguistic ways of learning with her students, Robin also celebrated the fact that there were all kinds of other ways that the same thing could be achieved. Consequently, students became more confident learners, "because [using a metacognitive approach to] the Multiple Intelligences, [helps] kids know that there are all kinds of ways to learn, to absorb that learning first of all, and then to respond to that

learning." Robin felt that since children knew this, they did not give up as easily, or "turn off and shut down." Moreover, they knew that they were validated, because they were going to learn in their own way.

After several months, it would become apparent that the child really began to know what his intelligence strengths were. As well, Robin felt that she could unequivocally say that the child really had that particular intelligence, based on the students' profile which she was continuously building up, using student self-evaluations, questionnaires, and observations. Subsequently, it was time for the teacher, student, and his or her parents to "exploit those strengths." Robin asserted,

> Whatever that strength is, whatever that intelligence is, that we have begun to be able to identify and really know and understand for that child, get them to use it. Get them to know about it. Get them to fully appreciate what that will allow them to do...right now and what that will allow them to do for all their learning....I think that's a real key to the whole thing....It only gets better with parents knowing [and] with children knowing.

Consequently, children with strengths in particular areas became the "resident expert" (e.g., the "word smart" or "picture smart" resident expert), who would help others when his or her expertise was needed.

Robin also felt that if you used a metacognitive approach to MI, children began to individualize their own learning, because they knew how to use their intelligences to respond to learning. They also knew how to glean the information best. Therefore, Robin believed that it was important to involve students in their own change process by teaching them to periodically set goals. She explained that students identified an intelligence area that they really wanted to work on and designed their own strategies to reach their goal. Because she had fostered a community atmosphere of learners, by developing students' confidence and respect for their own strengths as well as each others, her 7-year-old students, who had similar goals, spontaneously shared strategies with one

another. Thus, as a result of this metacognitive approach to Multiple Intelligences, children were not only caught up in their own learning, but in everybody else's learning as well.

Summary

Teachers introduced Multiple Intelligences theory to their students in their own unique way to form the basis for a metacognitive approach. Subsequently, students, teachers, and at times parents engaged in various reflective activities in order to build a Multiple Intelligences profile for each student. The profile displayed the student's areas of strength and areas for growth. Based on this information the teacher could teach through the child's strengths. Profiles also helped students set goals and feel competent. In addition, using MI explicitly allowed exceptional students to feel more included and connected to the classroom community. They now were able to see themselves and others as possessing common intelligence strengths, and yet as unique individuals whose contributions were valued within the classroom community. Thus, using a metacognitive approach to Multiple Intelligences helped children to understand themselves as learners and realize that there were different ways to learn and respond to that learning.

Promoting Cognitive Engagement

In the following section, participant teachers discuss how and why Multiple Intelligences theory offers a way to cognitively engage the exceptional student in his learning. The specific focus will be on the participants' applications, using concrete activities and mnemonic cues.

Andrea

Andrea particularly recommended using the bodily-kinesthetic and visual-spatial intelligences to cognitively engage all students, and especially exceptional students, in

their learning. She felt that integrating these intelligences into a lesson was often beneficial in making abstract concepts more concrete. As an example, Andrea described how she introduced a math lesson on decimals. She explained that a group of students stood next to each other to represent various digits in a number (e.g., 2,314.57). They each held up a single digit. One student represented the decimal which moved a number of places to the left or right, according to whether the number was being divided or multiplied by 10, 100, or 1000.

Andrea outlined several advantages of using this type of strategy. Besides making the concept more concrete, students got right into the lesson. As well, it provided an opportunity for them to get up and move around. She asserted that "a lot of students with learning disabilities have an ADD [or Attention Deficit Disorder] component....They need to get up. You need to provide that time for them." Furthermore, Andrea felt that concrete activities helped students see the connection; they provided a way for their mind to understand abstract concepts. From her experience with exceptional students, she found that they often needed manipulative activities to help them learn. She believed that even though they were perhaps beyond the primary level, they often were not yet developmentally ready for the abstract.

Andrea maintained that it was important to find the "hook" that was going to engage the exceptional student in his or her own learning. For them, the "3 Rs" were not likely to be the hook. Therefore, it was beneficial to look beyond the verbal-linguistic and logical-mathematical ways of teaching and learning. Andrea asserted, "Once you do find that hook, you'll find that growth across the curriculum is going to start happening."

During our interviews, Andrea recommended various visual-spatial, bodily-kinesthetic, and musical-rhythmic activities. For the exceptional student who was a visual-spatial learner, Andrea suggested a number of visual-spatial strategies. For example, if a student had difficulty remembering a story sequence, he could draw quick little pictures in a comic strip form. To help learn spelling words, a student could "take a

trip" (e.g., to his bedroom) and visualize his spelling words in various places (e.g., on his dresser, on his bed, etc.). Subsequently, he could make use of word configurations, by placing words on a picture (e.g., of his bedroom) and tracing around the shapes. This helped him remember their shape and spelling. Moreover, Andrea found that exceptional students benefited from visual cues in the classroom, such as pictures or charts. She felt that these children often needed assistance in seeing a relationship before they could learn. Visual cues frequently helped them make that relationship. Finally, Andrea recommended a number of bodily-kinesthetic and musical-rhythmic strategies. Getting involved with a word kinesthetically (e.g., by tossing a bean bag back and forth for each letter of a spelling word) was a way to provide a link for the kinesthetic learners. For the musical-rhythmic learners, she recommended activities like putting spelling words to a rhythm pattern (e.g., BE CA USE) and learning the times tables in the form of a song. All these activities served to enhance the memory as well, since they provided helpful cues for students to recall what they had learned.

Bev

Like Andrea, Bev emphasized the importance of providing the exceptional student with memory cues. It was her experience that exceptional students often missed out on cues (e.g., they could give you the first syllable in a word, but had trouble with the second and third syllable; or they only paid attention to the initial letter in a word and not to the end letter). In order to help them attend to the different units of sound in a word, exceptional students benefited from concrete cues.

Bev explained that musical-rhythmic, visual-spatial, and bodily-kinesthetic activities were helpful in providing exceptional students with these cues. For example, using the musical-rhythmic intelligence, you could clap out a word or sentence pattern and have the student clap it back to you. Using chants and rhyme also helped these students recognize and remember sound units. Although Bev asserted that she was not sold on commercial

products, she felt that Hooked On Phonics used music wonderfully to teach phonics. Furthermore, she found that having students colour-code the vowels and consonants in a word, using two different colours of blocks was a good visual-spatial activity for those who were having difficulty realizing that there were vowels in words, in addition to consonants. This activity concretized both the consonants and the vowels, so that the child was able to attend to the vowels better and visually see the different clusters of blocks. As a bodily-kinesthetic activity, students could stand up for a consonant and sit down for a vowel. Besides these strategies which helped students become aware of different sound units, Bev also suggested several bodily-kinesthetic activities for spelling, such as tracing words in the sand, jumbling up letters and putting them back together again, and playing different games with words.

Bev asserted that in addition to providing exceptional students with cues, these activities allowed them to become actively engaged in their learning. Without the active engagement ingredient, Bev contended, it just would not happen. She found that students were likely to be hooked into the lesson when several intelligences were addressed, not just the verbal-linguistic. Moreover, addressing exceptional students' strengths could help them use these to work on their weaker areas. She believed that using this approach provided a way for their brain to take in information in the most effective way, for them to make sense of that information, and then to demonstrate that they had that information and apply it in higher-order thinking skills.

John

Although many students reached a point in their development that they did not need as many concrete examples, like Andrea, John felt that there was also a large portion of students for whom concrete activities would be the only way they could learn, regardless of their age. These were often the bodily-kinesthetic and visual-spatial learners. When teaching about tenths, for example, you could use plasticine and have them cut it up in 10

parts. John asserted that a concrete example was the vehicle that engaged these students in learning. It was "sort of like getting on the bus and saying, 'Welcome on board.' This is the way to get you on the bus." Furthermore, John contended, "Anything you are teaching, theoretically, will be more successful, using an approach that will make... [students] feel safe and comfortable."

Robin

Robin suggested various activities to help students make concrete connections, and thus promote cognitive engagement in learning. She asserted that if a student was bodily-kinesthetic and visual-spatial, for example, you could teach him that he could use those wonderful strengths to help him learn more about words. According to Robin, the activities you engaged this learner in, were not necessarily anything incredibly new. "It's just allowing...[him] to feel words in...[his] body,...to move around,...to work with letters in the sand or playdough," or to think about what a word sounded like in his head and act it out. Furthermore, she felt that visual-spatial students benefited from using configurations, drawing the meaning of the word, cutting up words and putting them back together again, and using thinking organizers, such as T-charts and webs.

Robin also suggested a number of activities which promoted cognitive engagement for students having difficulty with spelling. The child who had a wonderful strength in math could be helped to learn by letting him choose two different colours of cubes to form a word. Using one colour to represent vowels and another colour to represent consonants, he could form the word with the cubes, so that he had a visual pattern. The child could then count the number of consonants and number of vowels (e.g., in the word castle, there were two vowels and four consonants), and make number sentences with them. For the child who loved to spell using his body, you could have him "build" the word (e.g., castle) with his body while saying the word and spelling it out loud, as a means of

"building" the word in his mind. Or the child could draw the letters in the air, jump them out, or do somersaults while saying and spelling the word.

Robin asserted that these activities allowed children to begin to have those wonderful layers or ways of learning which helped them to make connections in a way that made sense to them. She experienced that students would know that word the next time they saw it, because they recalled an associated body movement or visual cue. Robin contended that learning through the verbal-linguistic intelligence was often not enough for them. Furthermore, Robin maintained that these types of activities hooked the student into the learning and helped them keep their focus. Although Robin realized that some of these things could be done in a classroom that was not using the MI, Robin asserted that it was the combination of everything happening in the classroom, such as being confident, having a positive self-esteem, being a problem-solver, and knowing that they had a wonderful strength in one or two areas, that allowed the child to promote his or her learning more fully. Using this type of metacognitive approach, Robin believed that the child's depth of knowledge and understanding deepened.

Summary

To cognitively engage exceptional students in their learning, participants primarily focused on bodily-kinesthetic, visual-spatial, and musical-rhythmic activities. These often "hooked" students into the lesson. In particular, the bodily-kinesthetic and visual-spatial strategies served to make abstract concepts more concrete. Abstract verbal-linguistic activities were often not enough for exceptional students to understand the concept. In addition, these activities allowed them to be actively engaged in their learning and often enhanced the memory by providing mnemonic cues. Involving the musical-rhythmic intelligence was also helpful in this respect. Engaging students in these types of activities allowed the child to build up layers of learning, so that their depth of knowledge and understanding deepened.

Further Reflections

As with the implementation of any theory, one needs to be realistic concerning the way one goes about it. When putting theory into practice, the participants agreed that it could be beneficial to be aware of certain pitfalls one might encounter as well as various obstacles that might need to be overcome on one's journey. The following reflections are based on participants' learning experiences when implementing MI. Like the signals of a lighthouse, they may illuminate different boulders, with a view to preventing shipwreck in the waves of change.

Andrea

Andrea believed that although there were many innovative activities which could be done using Multiple Intelligences, there were times in school when the child would have to sit down and do something that was verbal-linguistic. Moreover, she felt the "three Rs," reading, writing, and arithmetic, were still important in teaching. Adding a component from the Multiple Intelligences spectrum to the verbal-linguistic and logical-mathematical ways of learning could make it more appealing for students, but could perhaps not be done all the time.

Moreover, Andrea postulated that students' strengths should not be solely developed. As a teacher, you could become too focused on one or two strengths for a particular child, not providing the opportunity to develop the other intelligences (e.g., if a child had difficulty reading, you could rely too much on developing other intelligences in learning and not keep him open to reading the printed word). Instead, teachers needed to encourage students to work on intelligence areas that were less well developed. Like the athlete or musician, she felt that in order to improve your skills and accomplish something in life, you needed to practice. "Gardner allows us to do that at school with [the different] intelligences," Andrea contended.

Furthermore, Andrea maintained that using Multiple Intelligences Theory was a lot of work for the classroom teacher. Setting up centres and thinking of all kinds of different activities could be a time-consuming job for one person. Therefore, she felt it was important to do team work with other teachers.

Finally, Andrea considered MI to be a trend in teaching. In her school they had really zeroed in on it one year. From then on, new programs became the focus. Not that they did not endorse the theory any more, it just did not receive as much emphasis as before.

Bev

Bev explained that MI was something you built on every year. Teachers usually knew a lot of activities which could be used to implement MI theory, they were often just not using them consciously. They could simply identify what they already were doing which could be used to implement the theory, and subsequently determine the areas they had not included in their teaching. She thought that a good hands-on program usually covered almost all of the intelligences.

When implementing MI, Bev felt that you had to be careful that you did not always use the cluster of intelligences that you as a teacher were strong in. Therefore, you had to really consciously think about how you were going to incorporate those other intelligences and be willing to take risks in the areas in which you yourself were not strong. This also entailed that you needed to plan your units extremely well in order to address all of the intelligences.

Besides planning for implementation, Bev asserted that teachers also needed to consciously plan for assessment. It was important to be aware that there were many routes you could take to achieve the same end result. When doing a product, you could look at the different stages using rubrics, checklists, and conferences. Sometimes it was necessary for all students to have the same product, other times you could provide them with different options. Moreover, when you asked students to show their learning, it was

necessary to be aware of which products were a reflection of particular intelligences. Bev felt that using portfolios was a helpful way for teachers to assess students' learning and growth over time.

Furthermore, Bev explained that in setting up various types of centres in the classroom, there was a lot of planning involved. However, she contended that once you had planned centres a number of times, it was something that you just did. She felt that using MI was not a "make work project," but rather a creative project in finding things that really worked for your students.

John

John asserted that if you found your teaching was getting into a pattern, it was important for you to "recognize that, and see what you can do to approach things differently...and strike a balance in [your] teaching." He cautioned that using MI could be "messy," since as a teacher you had to be willing to try different areas that you were not comfortable with.

Once you had planned a certain lesson, John felt that you should not feel locked into it. As a teacher, you needed to be flexible and spontaneous. If within the context of the lesson you were teaching, you saw that something was going very well, for example, verbally or musical-rhythmically, you might think of ways to extend it on the spot. Or if you saw something was not working as well as you would have liked it, you might come up with a different way of approaching the lesson while you were teaching it. Something significant that you had never planned could come out of it. John stated that because you were planning your lesson from various perspectives, it provided more flexibility as you moved through the lesson.

In addition, John felt that you needed to be realistic about using MI. He emphasized, "Every lesson can't be the perfect Multiple Intelligences lesson." Certain demands placed on teachers could prevent them from using the theory to the extent they would like to.

Recently, John heard an excellent teacher say, "You know, I don't teach students any more, I teach expectations." John felt that was a sad commentary on what was happening in today's schools. He asserted that sometimes

> we are so preoccupied, justifiably or not, with measuring expectations, that using Multiple Intelligences in a way that...is relevant and fun does not always materialize.... So you have to make choices....That's why I pick a couple of concepts every week and say, 'Okay, what are the different ways that...[I] can introduce this lesson and hopefully be more successful at the end of it?"

Furthermore, John postulated that although MI

> maximizes lessons of quality,...[it] minimizes lessons of expedience....The thing about Multiple Intelligences is that lessons are slow and you are not...just hitting on the verbal-linguistic kids. What you are doing...[is] slowing the lesson down...and trying to get some real value out of...[it which] takes time....Sometimes that can be difficult to do, to slow down in our society.

John felt that it was also important to consider students' verbal-linguistic skills. He maintained that as much as possible we needed to use "different vehicles to try to develop verbal-linguistic strengths, because that is the motor that gets everything moving within the school." Although it was not the only way we were assessing students, he contended it was the biggest way we were measuring their learning and was therefore worthy of our attention. Furthermore, he asserted that besides the standard tests, using portfolios to collect a body of evidence over time was a good way to assess students' learning.

John also emphasized that it was important to teach students routines. They needed to understand that what they were doing had the potential to break down. Therefore, they had to know ahead of time that they could "have fun learning, as long as...[they kept] the parameters in mind...within the context of the lesson." This perspective was illustrated during my observation visit. Before getting into the activities, John put a T-chart on the board with a happy face and a sad face. Below each face, he listed a number of

acceptable and unacceptable behaviours. John discussed with the students what they would feel like and what the quality of their final product would be when their group did or did not keep themselves within the parameters. While students worked in groups, and someone was getting off track, I observed students attending each other to the T-chart on the board. John felt that a happy class was one in which there was discipline and mutual respect, along with strategies that were innovative and relevant.

Robin

Robin postulated that whenever an educator was trying to work with any theory or research, whether it be with the MI or something else, there were always obstacles to be overcome. Some of them could come from the administration within your school, or from the school board. They might not want you to use MI theory, because they were not promoting it, or they had not in-serviced all their educators within a certain population. However, if you knew that your board supported it, that obstacle was overcome.

Furthermore, Robin noted some other obstacles you might need to deal with. She asserted that you must seek your own network of support which could be difficult, since educators who used MI were few and scattered. You also needed to be a risk-taker, as well as have a strong background in child development, brain theory, and have ways of developing professionally in the MI theory. Unfortunately, she found that there were few workshops and courses related to MI. Moreover, in order to make MI happen the way it should, you had to consider what you would "let go of."

Robin maintained that if you were going to work with MI, then you were going to have to assess and evaluate that way. She recommended building up portfolios and involving students in reflecting on their own learning. At the end, when you had a great deal of information, you could take it to a rubric that helped you identify and assess each of the intelligences. Although she found observations, questionnaires, and conferences more meaningful ways of assessing, as opposed to using a rubric, she believed that if we

were going to use Multiple Intelligences theory, we had to give it validity in some way and be accountable.

In addition, Robin mentioned a few other tasks which required consideration. She felt it was necessary to take time to inform parents about the theory. Moreover, one needed to observe each child for a minimum of 10 hours to fully ascertain his or her intelligence(s) and begin to program individually. Profiles had to be updated on a continual basis. "The whole idea is that it's ongoing. It's not a record that stays stagnant."

Although all children had an MI profile, Robin asserted for those children who were considered exceptional in the traditional sense, you needed to take time to go even deeper. Invariably, they needed much more in-depth kinds of individualized programming which required more detailed planning, observations, anecdotes, and record keeping. This provided the teacher with the opportunity to gain a fuller understanding about how the child's strengths and intelligences could help him learn in the very best way. Robin also felt that you could implement an individualized program with so much more validity because you had the deep layering of profile building.

Implementing MI also brought along other requirements which Robin thought important to highlight. She stated that you needed to have access to resources. Moreover, it was helpful if teachers were creative. Often a high energy level was required by the teacher as well. Although implementing MI was a lot of work, she thought it was so rewarding and had such an immediate impact. Therefore, Robin could not imagine herself not wanting to use such a tremendously worthwhile approach to teaching and learning.

Summary

Teachers discussed various aspects which they felt beneficial to consider, when attempting to put Multiple Intelligences theory into practice. In summary, a number of them will be highlighted. Implementing the theory involved a degree of risk for the

teacher, since in the process, you tried new lessons which were perhaps outside of your "comfort zone." Moreover, it was important to realize that every lesson did not have to be "the perfect Multiple Intelligences lesson." The theory was something you built on over time. Frequently, it involved a lot of planning, therefore it was important to establish support networks. Finally, rather than viewing MI as a "make work project," the teachers generally viewed it as a creative project that could make a difference in the lives of their students.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

Summary

The present chapter summarizes the findings of this study and suggests educational implications and recommendations. Since Chapter 4 consists of a detailed description of the data, followed by summaries for each subheading, this chapter discusses the general findings and implications which emerged from this research.

Conclusions

Initially, the study was designed to explore teachers' views and experiences in applying Multiple Intelligences theory to their practice with elementary-aged exceptional students by means of an interpretive approach. Since three of the participants work as regular classroom teachers, and the fourth previously used Multiple Intelligences as a regular classroom teacher, at times the teachers also speak about the application of Multiple Intelligences to students in general. This is very understandable since in "real-life" application, the context in which they use Multiple Intelligences includes a varied group of learners of which exceptional students are a subgroup. Therefore, the findings may be applicable to a more general student population as well. As a result of this study, several conclusions can be drawn regarding the processes which the participant teachers engage in to reach all of their students.

1. Perspectives of Exceptional Students

From the data, we may conclude that in applying Multiple Intelligences theory, participant teachers tend to shift their view of exceptional students from a disability focus to an "ability focus." When placed along this continuum, the teachers display a range of perspectives. This range may well be related to various factors about which one can speculate. To what extent does the role of a Special Education resource teacher or regular

classroom teacher influence the way these learners are viewed? How does one's personal philosophy impact one's perspective of exceptional students? To what extent does one's knowledge of Multiple Intelligences Theory influence one's view? How does an understanding of Special Education affect one's perspective? In spite of the fact that there are shades of difference between the teachers' views, all four educators confirm the importance of shifting one's focus from the "disability" to the student's strengths. In doing so, they tend to see exceptional children as "whole persons," who are basically "learning different."

In general, the teachers' perspectives echo the literature in which Armstrong (1994) contends that MI theory allows us to place "disabilities" within the broader context of the "wide spectrum of abilities" (p. 134). Therefore, he explains that it provides us with the opportunity to view children with special needs as "whole persons," having strengths in various intelligences. Armstrong (1994) maintains,

> Educators who view disabilities against the background of the seven intelligences see that disabilities occur in only part of a student's life; thus, they can begin to focus more attention on the *strengths* of special-needs students as a prerequisite to developing appropriate remedial strategies. (p. 138)

2. Enhancing Exceptional Students' Self-Esteem

The teachers in this study generally find that exceptional students tend to have a low self-esteem. The participants try to deal with this issue first in order to help the exceptional student make progress at school. The literature supports the importance of this action. According to Weber (1993), low self-esteem is clearly an acquired trait as opposed to an inherent one. He contends that as far as school is concerned, constant failure to achieve academically, in an environment which rewards and celebrates academic achievement, causes a child to have serious self-doubts. What aggravates the situation is that the student appears to be caught in a vicious cycle. As a result of low

achievement, the child feels that putting forth effort is not a worthwhile endeavour, causing learning to be minimal. Consequently, academic achievement begins to decrease. Regrettably, "neither teacher nor parent, nor the student gets to see how good the results could be" (p. 44). The inevitable effect is that behavioural problems arise, in order to distract attention from the disability and failure. This in turn interferes with students' learning as well.

Using Multiple Intelligences theory appears to be beneficial in combatting low self-esteem. Teachers explain that with this approach, the focus tends to be on students' unique strengths as opposed to their failures. As well, using the theory explicitly helps to foster different attitudes within the classroom setting, so that all students are recognized, valued, and respected as members who have something to contribute. Moreover, since teachers provide opportunities for students to learn through their strengths, they empower students to experience more success and gain confidence. Consequently, they are usually more willing to take risks and work on their weaker areas. This explanation seems to concur with Armstrong's (1994) view of the relevance of Multiple Intelligences for exceptional students' self-esteem. He states, "With more emphasis placed on the strengths and abilities of special-needs children, students' self-esteem and internal locus of control are likely to rise, thus helping to promote success among a broader community of learners" (p. 144).

3. Planning an Inclusive Approach

When teachers plan, we may conclude that they consciously use the Multiple Intelligences framework to assist them in implementing an inclusive approach. Campbell (1997) explains that the theory provides a "complex mental model" (p. 17) "for enhancing instruction and a language to describe one's efforts" (p. 19). By incorporating its different options, in addition to the traditional verbal-linguistic and logical-mathematical ways of learning, teachers relate that they are able to tap into the potentials of students who have

difficulty learning when the lesson is solely based on a linguistic approach. They assert that constructing curriculum using the Multiple Intelligences model increases the likelihood that more students will master and understand the content. Based on the variety of techniques teachers use, there does not appear to be a single preferred way of implementing Multiple Intelligences to promote inclusion.

The Multiple Intelligences model also seems to broaden the teacher's scope in planning for assessment in an inclusive way. Teachers describe that at times, they provide their students with various options to show their learning. Often the traditional pencil and paper assessments limit students with learning disabilities in expressing what they know. This is in keeping with the Gardner's theory. He and his colleague Hatch contend, "Pencil-and-paper tests are hardly adequate to survey the diverse functions of the brain" (1988, p. 39). Therefore, the question can be raised, "Are students with learning disabilities really "disabled" or has the educational system disabled them through their teaching and assessment methods?"

4. Developing Students' Metacognition

Teachers appear to use Multiple Intelligences explicitly to develop students' metacognition. After being introduced to the theory, students learn to apply its foundational aspects as they become involved in the process of building their intelligence profile. The profile provides a means for understanding students' unique strengths and weaknesses, promoting goal-setting, and fostering self-esteem. The teachers also use the theory to raise students' awareness of the different channels that are available to learn and respond to that learning. By discussing and modelling the various ways of approaching content, the likelihood that students become more able learners is increased. Gardner (cited in Checkley, 1997) asserts, "You have to use the profile to understand the ways in which you seem to learn easily. And from there, determine how to use those strengths to help you become more successful in other endeavours" (pp. 10, 11). "With this

knowledge, teachers can [also] offer and suggest activities that will address a student's strengths and weaknesses" (Gardner & Hatch, 1988, p. 39).

In the process of developing students' metacognition by means of Multiple Intelligences, teachers enhance students' understanding and appreciation for one another as well. This practice supports the literature. In discussing the implications of Multiple Intelligences for special education, Armstrong (1994) postulates, "As students use MI theory to make sense of their individual differences, their tolerance, understanding, and appreciation of those with special needs is likely to rise, making their full integration into the regular classroom more likely" (p. 144).

5. Promoting Cognitive Engagement

From the data, it is evident that teachers use Multiple Intelligences to promote exceptional students' cognitive engagement. Research (Strahan, 1988; Summey & Strahan, 1997) indicates that students with disabilities are often only superficially engaged in the learning process. It suggests that whether a student is cognitively engaged in his learning is one of the most important factors that contributes to whether learning occurs or not. According to Summey & Strahan (1997), Multiple Intelligences theory provides an effective means for improving cognitive engagement.

In reviewing the activities the participant teachers engage students in, there tends to be an emphasis on the use of the visual-spatial, bodily-kinesthetic, and musical-rhythmic intelligences. Incorporating these appears to facilitate the development of the typically weak areas of exceptional students, such as language and math. Armstrong (1994) describes this approach as "cognitive bypassing." He contends that "students who are not succeeding because of limitations in specific intelligence areas can often bypass these obstacles by using an alternative route, so to speak, that exploits their more highly developed intelligences" (p. 138). In particular, participant teachers describe concrete

activities and mnemonic cues to actively engage students, promote their understanding, and enhance their memory.

Recently, Summey and Strahan (1997) conducted a study with 11 seventh-graders regarding their perceptions of an inclusive approach to language arts instruction. The unit of instruction which they developed for a novel incorporated Gardner's (1983) theory. Based on the 11 students' profiles, these researchers also specifically incorporated visual-spatial, bodily-kinesthetic, and musical-rhythmic ways of knowing into their activities to help students understand the characters of the story. This method appeared to invite success.

The literature provides additional reinforcement for the teachers' practices regarding the use of the visual-spatial, bodily-kinesthetic, and musical-rhythmic intelligences. As far as the visual-spatial is concerned, Weber (1993) points out "learning disabled students usually benefit from as much graphic and visual support as possible in a lesson. Use of ... concrete supports...[help] them understand" (p. 49). Regarding the bodily-kinesthetic learner, the literature reports that he

> needs to put some sort of action to the learning or the learning doesn't stick! Even if the action is as simple as pacing or moving while reading or memorizing, the more kinesthetic learner will remember best what he learned while on the move (Tobias, 1994, p. 93).

Finally, in a study designed to improve language skills of preschoolers with disabilities, using Gardner's theory, Merrefield (1997) and her colleague concluded that "instruction in musical and bodily-kinesthetic activities best facilitated the development of language skills" (p. 61). Although each child's profile is unique, when we consider teaching an entire class, could this information hint at a pattern that could be used to ensure the likelihood that more students are cognitively engaged in their learning?

6. Further Reflections

As teachers engage in various actions to reach all of their students, it appears that implementation of Multiple Intelligences involves a learning process. Gardner (1997) contends, "It takes time to absorb the full implications of the theory....It also takes time for educators to work out specific practices" (p. 20). Each of the teachers refers to a change which the theory brought about in their practice. Although much of what they already were doing could be used to implement Multiple Intelligences, there seems to be a general consensus for the need to take risks by working on less familiar areas. There is also often a lot of planning involved. Therefore, Multiple Intelligences is something the teachers implement over time.

In order to successfully put the theory into practice, participants emphasize the importance of forming various support networks, such as engaging in team planning and team teaching. With reference to Multiple Intelligences, Bellanca (1998) maintains that various conditions need to be honoured in order for teachers to make changes in how they teach. He states that given the proper assistance, for example, by interacting with a peer support team, who share and plan "classroom-specific applications,...the targeted changes have an 80% chance of becoming regular practice. Without the support team, the chances of successful, long-term implementation can fall below 20%" (Bellanca, 1998, p. 660).

Although implementing the theory involves certain changes, teachers generally tend to view it as a creative project rather than a "make work project" that enables them to become better teachers and make a difference in the lives of their students. Likewise Armstrong (1994) asserts,

> MI theory provides a way for *all* teachers to reflect upon their best teaching methods and to understand why these methods work (or why they work well for some students but not for others). It also helps teachers expand their current teaching repertoire to include a broader range of methods, materials, and techniques for reaching an ever wider and more diverse range of learners. (p. 50)

Educational Implications and Recommendations

Several educational implications and recommendations are evident as a result of this research. Multiple Intelligences theory appears to provide a cognitive framework which facilitates one's understanding of the teaching-learning process. As the theory enlightens teachers' comprehension of the human mind, their views and practices with exceptional students tend to take on a more positive and purposeful focus. I believe that a balanced view of a child's strengths and weaknesses is necessary. If we neglect the learning difficulty altogether, there is little hope for improvement in that area. In order to understand "learning different" students better, I recommend that educators in general broaden their knowledge in the field of special education. As well, deepening one's insights into cognitive theories, such as Multiple Intelligences, may prove to be extremely beneficial. Equipped with this understanding, educators will be able to use the student's strengths much more deliberately in their attempts to unlock emotional and academic abilities within the exceptional learner.

Since Multiple Intelligences has the potential to promote cognitive engagement, I feel it is important to use this approach to instruction as early as possible. In all likelihood, the longer the student is superficially engaged in his learning, the greater his lag will become in comparison to his peers. Educators need to thoughtfully and creatively use the theory to counteract this phenomenon. In this respect we need to realize that although exciting, hands-on, active-learning experiences are important ingredients in learning, they do not ensure that *understanding* takes place (Ben-Hur, 1998). According to Ben-Hur, they may provide a meaningful emotional experience, but not necessarily a meaningful cognitive one; he contends that both are needed. In order for teachers to be more successful in ensuring a meaningful cognitive experience, Ben-Hur recommends that the "whys" and "what fors" of learning be discussed. Therefore, I feel that using MI to promote emotional and cognitive engagement, along with the use of a strong

metacognitive approach, will likely deepen students' understanding and make their learning experiences more meaningful.

Besides more sophisticated forms of instruction, more sophisticated forms of assessment are needed if educators desire to work in an inclusive way. "Good teaching demands that the goals and objectives of a program, the methods of teaching, and the evaluation practices be equal partners in the teaching-learning process" (Cornfield et al., 1987, p. 28). Close attention must be given to assessing exceptional students' understanding throughout the teaching-learning process, so that appropriate adjustments can be made to the form of instruction, in order for the student to achieve the desired learning outcomes. In addition, using a variety of forms of assessment may help teachers discover areas of an exceptional student's knowledge and skills that were previously hidden.

From this study, the value of implementing Multiple Intelligences theory to expand one's teaching repertoires and reach more students is evident. Nevertheless, when reflecting on its implications for practice, it is clear that implementing the theory is a demanding task which requires good teaching skills. Moreover, it calls for teachers' commitment to continued professional development in order to have a firm theoretical base and avoid superficial implementation. The theory also nudges educators outside of their comfort zone to work on areas they are less familiar with. Along with these demands and uncertainties comes the plea for support from school administrators and for educational partnerships amongst colleagues. Without a support network, the danger may be that Multiple Intelligences merely becomes another trend. On the other hand, working together will enhance teachers' opportunities to implement the best practices and foster intelligence in many more students (Gardner, 1997).

Implications for Further Research

The findings obtained from this present study have reflected teachers' perspectives of Multiple Intelligences theory and its implications for their practice with exceptional students. In view of these findings, further research is suggested in several areas. First, individual elementary school teachers who use Multiple Intelligences could engage in action research projects over a 1-year period in which they document their practices and their effects on exceptional students' learning. Second, the data from a number of these action research projects could be synthesized into a larger research study to systematically analyze whether basic principles regarding Multiple Intelligences and its effects on elementary-aged exceptional students emerge.

Finally, in light of the fact that administrators can make a profound impact on whether or not a teacher will be able to successfully implement Multiple Intelligences theory, it may be beneficial to research whether school administrators are prepared to support teachers in this new venture and, if so, examine the practices that administrators engage in during the implementation process.

My Closing Signature

As my research draws to a close, I would like to reflect back on certain aspects of the experience that have personal relevance, and also look ahead.

Working with each of the four participants has been valuable for me and will no doubt leave a lasting impression. The teachers' willingness to accommodate me and take time out of their busy schedules to share their insights about Multiple Intelligences and exceptional students appears to indicate the value they place on the theory and their commitment to making it known to others. I was impressed with their dedication in trying to make a difference in the lives of their students. Often I left an interview invigorated, since in many ways we shared similar convictions about teaching.

One of the goals of this study was to explore other teachers' perspectives and experiences with Multiple Intelligences and exceptional students in order to "confirm my theories and new aspects of my practice...[and] gain a fuller understanding of this topic in order to further develop and extend my theories." Interacting with the participants was very encouraging, since it confirmed many of my theories. Granting me the opportunity to watch them in action provided me with helpful models of how teachers implement Multiple Intelligences. As they shared their practices and insights, I was able to further develop and extend my theories. I wish to thank Andrea, Bev, John, and Robin for the many ways in which they contributed to my professional development and enriched my life beyond the scope of this research.

Reading the literature and watching videos by Gardner and his colleagues added another dimension to my understanding of the topic. Gardner's theory, about the way in which the mind functions, has left me with a deepened sense of knowledge about ways in which to reach the exceptional child. In addition, his emphasis on teaching for understanding will undoubtedly influence my practice. Nevertheless, the further I delve into my research topic, the more I realize how much there still is to learn.

With the coming school year in mind, I again envision myself as a reflective musician, who desires to draw the music out of each learner. With anticipation, I look forward to all the exciting symphonies of intelligence that are awaiting me as I attempt to apply the theory in "real life." The famous saying in the world of music is "practice makes perfect." Therefore, with experimentation, practice, and further exploration of Multiple Intelligences, I will seek to provide opportunities for my students to successfully use their many talents and abilities. In doing so, I hope to make learning a melodious and worthwhile experience.

References

Anderson, J. R. (1985). Cognitive psychology and its implications (2nd ed.). New York: W. H. Freeman and Company.

Armstrong, T. (1988). Learning differences - not disabilities. Principal, 68(1), 34-36.

Armstrong, T. (1994). Multiple intelligences in the classroom. Alexandria, VA: Association for Supervision and Curriculum Development.

Bellanca, J. (1998). Teaching for intelligence: In search of best practices. Phi Delta Kappan, 79(9), 658-660.

Ben-Hur, M. (1998). Mediation of cognitive competencies for students in need. Phi Delta Kappan, 79(9), 661-666.

Bogdan, R. C., & Biklen, S. K. (1992). Qualitative research for education: An introduction to theory and methods (2nd ed.). Toronto, ON: Allyn and Bacon.

Campbell, B. (1994). The multiple intelligences handbook: Lesson plans and more.... Palatine, IL: IRI/Skylight Publishing.

Campbell, L. (1997). Variations on a theme: How teachers interpret MI theory. Educational Leadership, 55(1), 14-19.

Chapman, C. (1993). If the shoe fits...: How to develop multiple intelligences in the classroom. Palatine, IL: IRI/Skylight Publishing.

Checkley, K. (1997). The first seven... and the eighth: A conversation with Howard Gardner. Educational Leadership, 55(1), 8-13.

Clemes, H., & Bean, R. (1990). How to raise children's self esteem. New York, NY: Price Stern Sloan.

Cornfield, R. J., Coyle, K., Durrant, B., McCutcheon, K., Pollard, J., & Stratton, W. (1987). Making the grade: Evaluating student progress. Scarborough, ON: Prentice-Hall.

Cranton, P. (1994). Understanding and promoting transformative learning. San Francisco, CA: Jossey-Bass Publishers.

Cunningham, P., & Hall, D. P. (1994). Making words. Parsippany, NJ: Good Apple.

Eisner, E. W. (1991). The enlightened eye: Qualitative inquiry and the enhancement of educational practice. New York: Macmillan Publishing Company.

Elliot, A. E. (1993). Exploring teachers' experiences with mythology. Unpublished doctoral dissertation, University of Toronto, Toronto.

Faggella, K., & Horowitz, J. (1990). Different child, different style. Instructor, 100(2), 49-54.

Fogarty, R., & Stoehr, J. (1995). Integrating curricula with multiple intelligences: Teams, themes, & threads. Palatine, IL: IRI/Skylight Publishing.

Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), The nature of intelligence (pp. 231-235). Hillsdale, NJ: Lawrence Erlbaum.

Gagne, E. D., Yekovich, C. W., & Yekovich, F. R. (1993). The cognitive psychology of school learning (2nd ed.). New York: HarperCollins College Publishers.

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic Books.

Gardner, H. (1987). The theory of multiple intelligences. Annals of Dyslexia, 37, 19-35.

Gardner, H. (1991). The unschooled mind: How children think and how schools should teach. New York: Basic Books.

Gardner, H. (1993). Multiple intelligences: The theory in practice. New York: Basic Books.

Gardner, H. (1995). Reflections on multiple intelligences: Myths and messages. Phi Delta Kappan, 77(3), 200-203, 206-209.

Gardner, H. (1997). Multiple intelligences as a partner in school improvement. Educational Leadership, 55(1), 20-21.

Gardner, H., & Hatch, T. (1988). How kids learn: What scientists say. Learning, 17(4), 37-39.

Greenhawk, J. (1997). Multiple intelligences meet standards. Educational Leadership, 55(1), 62-64.

Hatch, T. (1997). Getting specific about multiple intelligences. Educational Leadership, 54(6), 26-29.

Hinton, S. E. (1968). The outsiders. New York: Dell.

Hooked on phonics: Preschool, primary, remedial, adult (6th ed.). (1993). Orange, CA: Gateway Educational Products.

Lazear, D. (1991a). Seven ways of knowing: Teaching for multiple intelligences (2nd ed.). Palatine, IL: IRI/Skylight Publishing.

Lazear, D. (1991b). Seven ways of teaching: The artistry of teaching with multiple intelligences. Palatine, IL: IRI/Skylight Publishing.

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Beverly Hills, CA: Sage Publications, Inc.

Marshall, C., & Rossman, G. B. (1989). Designing qualitative research. Newbury Park, CA: Sage Publications, Inc.

McCracken, M. J., & McCracken, R. A. (1996). Spelling through phonics. Winnipeg, MN: Peguis Publishing.

McMillan, J. H., & Schumacher, S. (1997). Research in education: A conceptual introduction (4th ed.). Don Mills, ON: Longman.

McNiff, J. (1993). Teaching as learning: An action research approach. London: Routledge.

Measor, L. (1985). Interviewing: A strategy in qualitative research. In R. Burgess, (Ed.), Strategies of educational research (pp. 55-77). London: Falmer Press.

Merrefield, G. E. (1997). Three billy goats and Gardner. Educational Leadership, 55(1), 58-61.

Merriam, S. B. (1988). Case study research in education: A qualitative approach. San Francisco, CA: Jossey-Bass Inc.

Merton, R. K., & Kendall, P. L. (1946). The focused interview: American Journal of Sociology, 51, 541-557.

Papalia, D. E., & Olds, S. W. (1990). A child's world: Infancy through adolescence (7th ed.). Toronto, ON: McGraw-Hill Inc.

Pintrich, P. R. (1990). Implications of psychological research on student learning and college teaching for teacher education. In W. R. Houston (Ed.), Handbook of research on teacher education (pp. 826-847). New York: Macmillan Publishing Co.

Rothe, J. P. (1993). Qualitative research: A practical guide. Heidelberg/Toronto, ON: RCI/PDE Publications.

Schon, D. A. (1987). Educating the reflective practitioner. San Francisco, CA: Jossey-Bass, Inc.

Sternberg, R. J. (1985). Beyond IQ: A triarchic theory of human intelligence. New York: Cambridge University Press.

Sternberg, R. J. (1986). Intelligence applied: Understanding and increasing your intellectual skills. San Diego: Harcourt Brace.

Sternberg, R. J. (1987, September 23). The uses and misuses of intelligence testing: Misunderstanding meaning, users over-rely on scores. Education Week, pp. 22, 28.

Strahan, D. (1988). Life on the margins: How academically at-risk early adolescents iew themselves and school. Journal of Early Adolescence, 8, 373-390.

Summey, H. K., & Strahan, D. B. (1997). An exploratory study of mainstreamed seventh graders' perceptions of an inclusive approach to instruction. Remedial and Special Education, 18(1), 36-45.

Tobias, C. U. (1994). The way they learn. Colorado Springs, CO: Focus on the Family.

van Halen-Faber, C. (1996). Valuing and encouraging critical reflection in pre-service teacher education. Unpublished master's thesis, Brock University, St. Catharines, ON.

van Manen, M. (1990). Researching lived experience: Human science for an action sensitive pedagogy. London, ON: The Althouse Press.

Weber, K. (1993). Special education in Ontario schools (3rd ed.). Thornhill, ON: Highland Press.

Winzer, M. (1987). Exceptional children in Canada. Scarborough, ON: Prentice-Hall Canada Inc.

Wong, B. Y. L. (1991). The relevance of metacognition to learning disabilities. In B. Y. L. Wong (Ed.), Learning about learning disabilities (pp. 231-258). Toronto, ON: Academic Press.

Appendix A
Informed Consent Form

Dear Research Project Participant,

In partial fulfillment of the requirements for the degree of Master of Education at *Brock University*, St. Catharines, ON, I am presently involved in doing research related to the topic of *Exploring Teachers' Use of Multiple Intelligences with Elementary-Aged Exceptional Students.*

The purpose of this qualitative study is to deepen my understanding of the way in which teachers use Multiple Intelligences in their programming, classroom planning, and teaching of exceptional students. This research is also intended to awaken other practitioners' critical and creative reflection on Multiple Intelligences theory and the way in which they teach exceptional students.

The research methodology I will be following is primarily a qualitative and emerging one; my intent is to describe and understand (rather than "measure") the data. Since the research design is emergent, tentative data collection procedures are outlined below. Further plans may evolve during the course of the research process.

The duration of participation will be from February 1998 - June 1998. It will tentatively involve five meetings which will take place at a time and location which is convenient for you. The first will be an introductory visit and a voluntary classroom observation of approximately 45 - 60 minutes. Subsequently, I would like to meet with you on three separate occasions for a 30-minute interview. Finally, I would like to meet with you to go over the results. Exceptional students' products which are representative or exemplary samples of their work and illustrate the result of your use of Multiple Intelligences would be welcomed as well. These will be photocopied if possible. All original student work will be returned.

In my past experiences, I have found that tape recording the interview sessions has been very helpful in collecting the information participants have to share. It ensures that the data I collect from you are authentic and enables me to review our conversation. At this time, I would like to ask your permission to tape record the three interview sessions.

It should be clearly understood that participation in this project is completely voluntary. Participants have the option to withdraw from the research at any time, without penalty. Confidentiality of the data and anonymity of the participant are guaranteed by the researcher.

In order to participate in this research project, you are asked to complete the bottom portion of this *Informed Consent Form.*

Researcher:
Alice Hamstra - (905) 692-4036

Thesis Supervisor:
Dr. Susan Drake - Brock University (905) 688-5550 ext. 3931

I,_____ give Informed Consent to my participation in this research project.

I agree____/do not agree____ to allow the researcher to tape record the interviews.

I would like the researcher to use a pseudonym for my name_____/my first name_____ within the text of the study and discussion of results.

I do____/do not____ want to see how the data provided by me are included in the final thesis content.

Signature of Participant:_____ ; Date _____

Signature of Researcher:_____; Date_____

Appendix B
Principal Consent Form

Dear (Principal's Name),

In partial fulfillment of the requirements for the degree of Master of Education at Brock University, St. Catharines, ON, I am presently involved in doing research related to the topic of *Exploring Teachers' Use of Multiple Intelligences with Elementary-Aged Exceptional Students*.

On February 17, 1998, I received permission from the (School Board Name) to initiate research in four of the (School District Name), including your school. One of your teachers, (teacher's name), is involved in my research project and has received and signed an informed consent form. Although my work is primarily with the teachers, in the process of observing the teacher, I will generally be observing the students as well.

The Standing Subcommittee on Research with Human Participants at Brock University has requested that I obtain a letter of permission on behalf of the students and their parents to observe the students who are in the scene during the teacher observation visit. As well, I may be looking at some "student products" during my contact with the teacher for which I would also like to receive permission. Should any specific student work be used as part of my research project, individual parental consent will be obtained using the attached letter which has been approved by your school board.

I would greatly appreciate it if you would fill out the consent form below and return it to me in the enclosed postage-paid envelope. Thanking you in advance,

Sincerely,

Alice Hamstra
Graduate Student
Faculty of Education
Brock University

On behalf of the students and their parents, I _____,
give the researcher, Alice Hamstra, permission to observe the students during her observation visit to the teacher, as well as to examine student products during her contact with the teacher. I understand that the researcher will obtain individual consent from the parents should any student products be referred to within the final research project.

Signature of Principal:_____; Date:_____

Signature of Researcher:_____; Date:_____

Appendix C
Parental Consent Form

Dear Parents:

I am a graduate student at Brock University, St. Catharines, and I am conducting a study that looks at teachers' practices with exceptional students. Specifically, I hope that this project will lead to a better understanding of how teachers use the Multiple Intelligences approach with exceptional students and how this approach helps exceptional students to learn. One of the participants in this study is your child's teacher, Mr./Mrs./Ms._____. In our discussion, he/she identified a sample of your child's work as an illustration of his/her classroom practice. This sample item may serve as an example in my findings. At this time, I would like to ask your permission to use it in my study. As a researcher, I will assure your child's anonymity by not using his/her real name.

This study has been officially approved by your child's school Principal and the (School Board's Name) Research Advisory Committee and is being conducted under direct supervision of my thesis supervisor, Dr. Susan Drake, at Brock University.

Please complete the form at the bottom of this letter and return it to your child's teacher by.....

I sincerely appreciate your co-operation. If you would like to receive more information about the study, please contact me or my thesis supervisor through the school Principal.

Thank you,

Alice Hamstra,
Graduate Student,
Faculty of Education,
Brock University

Child's Name_____

PLEASE CHECK HERE

_____ I give permission to include a sample item of my child's work in the Brock University study conducted by Alice Hamstra.

_____ I do NOT give permission to include a sample item of my child's work in the Brock University study conducted by Alice Hamstra.

Signature of parent/guardian _____

PLEASE RETURN TO YOUR CHILD'S CLASS TEACHER BY .....

Appendix D
Researcher Observation Protocol

This protocol is intended to describe how the researcher will observe the individual teacher participant in his/her classroom. The researcher will watch the teacher in a relatively passive and unobtrusive way for approximately 45 - 60 minutes. The goal is to obtain a general impression of the context in which the participant teaches. Specifically, I will observe the following:

1. The Setting

   a. What is the physical environment like?
   b. How are students seated?

2. The Participants

   a. Who is in the scene?
   b. What are their roles?
   c. How many students are in the class?
   d. How many exceptional students are in the class?
   e. What types of exceptional students are in the class?

3. Activities and Interactions

   a. What is going on?
   b. Is there a definable sequence of activities?
   c. How do the people interact with the activity and with one another?

Note. Adapted from Case Study Research in Education: A Qualitative Approach (p. 90), by S. B. Merriam, 1988, San Francisco, California: Jossey-Bass Publishers.

Appendix E
Preliminary Questions

These questions are intended to help you prepare for the interview with me. I would appreciate it if you would give the following some thought.

Multiple Intelligences as Theory

1. You are familiar with Multiple Intelligences (MI) theory, when did you first come in contact with Gardner's MI theory?

2. How have you used Multiple Intelligences in your classroom planning, teaching, and programming for exceptional students?

3. Do you try to determine which intelligences a student is strong in? If so, what are some of the ways you try to do this?

4. What resources, if any, do you find helpful in implementing Gardner's MI theory?

Multiple Intelligences and Exceptional Students

5 a. Have you used it specifically in programming for exceptional students? If so, what is your experience in taking this approach to programming for exceptional students?
   b. Do you feel it is or would be beneficial to use this approach when programming for exceptional students? If so, what benefits do you see?

Multiple Intelligences and You as a Learner/Teacher

6. a. As a learner yourself, what do you feel are the four main intelligences you lean toward?
   b. Does the awareness of your own strengths/intelligences influence the approach you choose?
   c. If so, how does this awareness influence your teaching, classroom planning, and programming for exceptional students?

Multiple Intelligences and Your Teaching Perspective

7. a. What is your perspective on Gardner's MI theory?
   b. What drawbacks, if any, do you see in using Gardner's MI theory in programming, classroom planning, and teaching exceptional students?

General Conclusion

8. Do you have any additional comments regarding the application of Gardner's MI theory to programming, classroom planning, and teaching exceptional students?

Appendix F
Letter to Confirm Research Results

Date:_____

Dear _____,

I would like to thank you very much for your participation in my research. Observing you teach proved to be enlightening and enjoyable for me. Moreover, your insights and experiences with Multiple Intelligences, which you shared in the interviews and in your written reflections, were much appreciated. They helped to provide me with valuable information with respect to my research topic. I hope that being a part of this research has been meaningful for you as well.

Enclosed you will find a copy of the research results. Please read them carefully to ascertain that the information presented is credible. If you feel there is anything which needs to be changed, do not hesitate to contact me by telephone at (905) 692-4036.

I really appreciate your time and effort. It has been a pleasure working with you.

Sincerely,

Alice C. Hamstra

M.Ed. Graduate Student